YAMAHA

F2.5C

OWNER'S MANUAL

U.S.A.Edition
LIT-18626-05-28

⚠ WARNING

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

YAMAHA LIT-CALIF-65-01

EMU01448

TO THE OWNER

Thank you for choosing a Yamaha outboard motor. This Owner's manual contains information needed for proper operation, maintenance and care. A thorough understanding of these simple instructions will help you obtain maximum enjoyment from your new Yamaha. If you have any question about the operation or maintenance of your outboard motor, please consult a Yamaha dealer.

In this Owner's Manual particularly important information is distinguished in the following ways.

The Safety Alert Symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED!

⚠WARNING

Failure to follow WARNING instructions could result in severe injury or death to the machine operator, a bystander, or a person inspecting or repairing the outboard motor.

CAUTION:

A CAUTION indicates special precautions that must be taken to avoid damage to the outboard motor.

NOTE:

A NOTE provides key information to make procedures easier or clearer.

Yamaha continually seeks advancements in product design and quality. Therefore, while this manual contains the most current product information available at the time of printing, there may be minor discrepancies between your machine and this manual. If there is any question concerning this manual, please consult your Yamaha dealer.

NOTE:

The F2.5MHC and its standard accessories are used as a base for the explanations and illustrations in this manual. Therefore, some items may not apply to every model.

EMU01446*

F2.5C
OWNER'S MANUAL
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CONTENTS

E

GENERAL INFORMATION 1

BASIC COMPONENTS 2

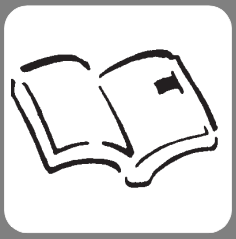
OPERATION 3

MAINTENANCE 4

TROUBLE RECOVERY 5

INDEX 6

READ THIS OWNER'S MANUAL CAREFULLY BEFORE OPERATING YOUR OUTBOARD MOTOR.



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Chapter 1

GENERAL INFORMATION

IDENTIFICATION NUMBERS RECORD 1-1
Outboard motor serial number 1-1

EMISSION CONTROL INFORMATION 1-2
North american models 1-2
Star labels 1-3

SAFETY INFORMATION 1-4

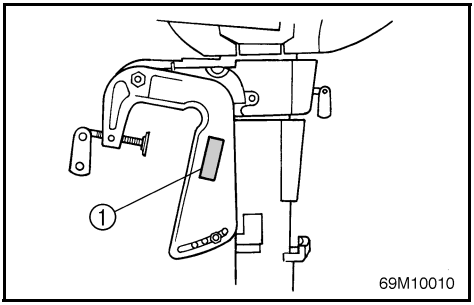
IMPORTANT LABELS 1-6
Warning labels 1-6
Caution labels 1-7

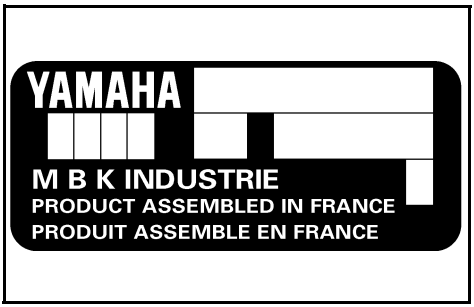
BASIC BOATING RULES (Rules of the road) 1-8
Steering and sailing rules and sound signals 1-8
Rules when encountering vessels 1-9
Other special situations 1-10

FUELING INSTRUCTIONS 1-12
Gasoline 1-13

ENGINE OIL 1-14

PROPELLER SELECTION 1-15





EMU00005

IDENTIFICATION NUMBERS RECORD

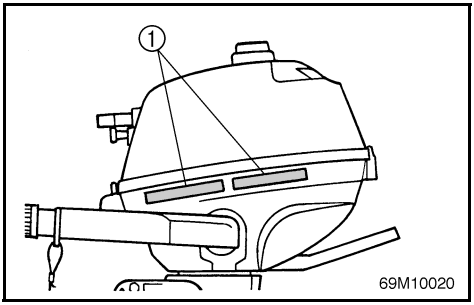
EMU00007

OUTBOARD MOTOR SERIAL NUMBER

The outboard motor serial number is stamped on the label attached to the port side of the clamp-bracket.

Record your outboard motor serial number in the spaces provided to assist you in ordering spare parts from your Yamaha dealer or for reference in case your outboard motor is stolen.

① Outboard motor serial number



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EMISSION CONTROL INFORMATION

EMU01444

NORTH AMERICAN MODELS

This engine conforms to U.S. Environmental Protection Agency (EPA) regulations for marine SI engines. See the label affixed to your engine for details.

①

EMISSION CONTROL INFORMATION EM

ENGINE FAMILY :

THIS ENGINE CONFORMS TO U.S. EPA REGULATIONS FOR MARINE SI ENGINES.
THIS ENGINE CONFORMS TO CALIFORNIA EMISSION REGULATIONS FOR SI MARINE ENGINES.
REFER TO THE OWNER'S MANUAL FOR MAINTENANCE SPECIFICATIONS AND ADJUSTMENTS.

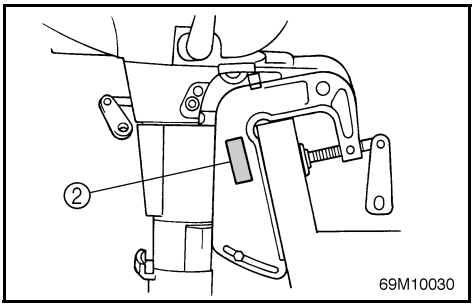
FELs : g/kw-hr	IDLE SPEED : rpm IN NEUTRAL
SPARK PLUG :	SPARK PLUG GAP (mm) :
DISPLACEMENT : cm³	FUEL : GASOLINE
ADVERTISED POWER : kw	VALVE LASH (mm) IN: EX:

YAMAHA MOTOR CO.,LTD.

Approval label of Emission control certificate

This label is attached to the bottom cowling.

① Emission control information label



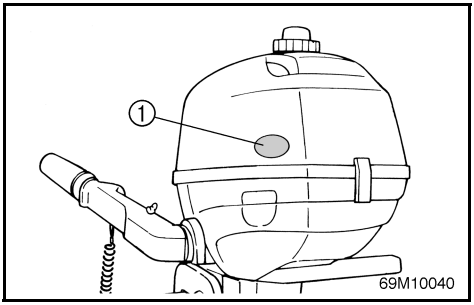
Manufactured date label

This label is attached to the clamp bracket.

② Manufactured date label

②

YAMAHA
Manufactured:



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STAR LABELS

Your outboard motor is labeled with a California Air Resources Board (CARB) star label. See below for a description of your particular label.

① Star label

One Star - Low Emission

The one-star label identifies engines that meet the Air Resources Board's 2001 exhaust emission standards. Engines meeting these standards have 75% lower emissions than conventional carbureted two-stroke engines. These engines are equivalent to the U.S. EPA's 2006 standards for marine engines.

Two Stars - Very Low Emission

The two-star label identifies engines that meet the Air Resources Board's 2004 exhaust emission standards. Engines meeting these standards have 20% lower emissions than One Star-Low-Emission engines.

Three Stars - Ultra Low Emission

The three-star label identifies engines that meet the Air Resources Board's 2008 exhaust emission standards. Engines meeting these standards have 65% lower emissions than One Star-Low-Emission engines.

EMU00917

SAFETY INFORMATION

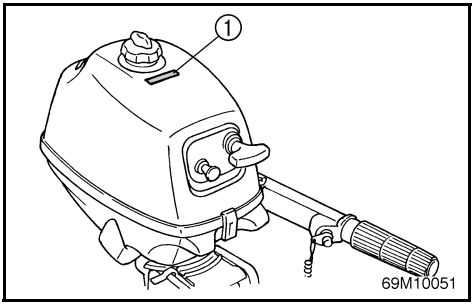
- Before mounting or operating the outboard motor, read this entire manual. Reading it should give you an understanding of the motor and its operation.
- Before operating the boat, read any owner's or operator's manuals supplied with it and all labels. Be sure you understand each item before operating.
- Do not overpower the boat with this outboard motor. Overpowering the boat could result in loss of control. The rated power of the outboard should be equal to or less than the rated horsepower capacity of the boat. If the rated horsepower capacity of the boat is unknown, consult the dealer or boat manufacturer.
- Do not modify the outboard. Modifications could make the motor unfit or unsafe to use.
- Never operate after drinking alcohol or taking drugs. About 50% of all boating fatalities involve intoxication.
- Have an approved personal flotation device (PFD) on board for every occupant. It is a good idea to wear a PFD whenever boating. At a minimum, children and non-swimmers should always wear PFDs, and everyone should wear PFDs when there are potentially hazardous boating conditions.
- Gasoline is highly flammable, and its vapors are flammable and explosive. Handle and store gasoline carefully. Make sure there are no gas fumes or leaking fuel before starting the engine.
- This product emits exhaust gases which contain carbon monoxide, a colorless, odorless gas which may cause brain damage or death when inhaled. Symptoms include nausea, dizziness, and drowsiness. Keep cockpit and cabin areas well ventilated. Avoid blocking exhaust outlets.
- Check throttle, shift, and steering for proper operation before starting the engine.
- Attach the engine stop switch lanyard to a secure place on your clothing, or your arm or leg while operating. If you accidentally leave the helm, the lanyard will pull from the switch, stopping the engine.
- Know the marine laws and regulations where you will be boating - and obey them. Refer to the "RULES OF THE ROAD" section for basic boating rules.
- Stay informed about the weather. Check weather forecasts before boating. Avoid boating in hazardous weather.
- Tell someone where you are going: leave a Float Plan with a responsible person. Be sure to cancel the Float Plan when you return.
- Use common sense and good judgment when boating. Know your abilities, and be sure you understand how your boat handles under the different boating conditions you may encounter. Operate within your limits, and the limits of your boat. Always operate at safe speeds, and keep a careful watch for obstacles and other traffic.
- Always watch carefully for swimmers during the engine operation.
- Stay away from swimming areas.

- When a swimmer is in the water near you shift into neutral and shut off the engine.
- Be informed about boating safety. Additional publications and information can be obtained from many organizations, including the following:

United States Coast Guard
Consumer Affairs Staff (G-BC)
Office of Boating, Public, and Consumer Affairs
U.S. Coast Guard Headquarters
Washington, D.C. 20593-0001
Boating Safety Hotline: 1-800-368-5647

National Marine Manufacturers Association (NMMA)
401 N. Michigan Ave.
Chicago, Il 60611

Marine Retailers Association of America
155 N. Michigan Ave.
Chicago, Il 60601



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IMPORTANT LABELS

WARNING LABELS

①

⚠ WARNING

LEAKING FUEL COULD CAUSE A FIRE.
Before tilting up the engine or laying it on its side:
- Turn the fuel cock to the "closed" position.
- Tighten the air-vent screw on the fuel tank cap.

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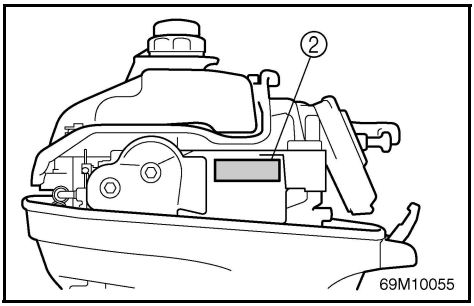

②

⚠ WARNING

- Be sure shift control is in neutral before starting engine. (except 2HP)
- Do not touch or remove electrical parts when starting or during operation.
- Keep hands,hair,and clothes away from flywheel and other rotating parts while engine is running.

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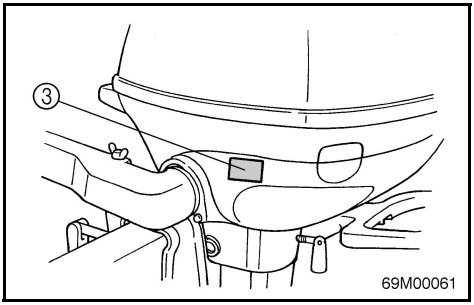
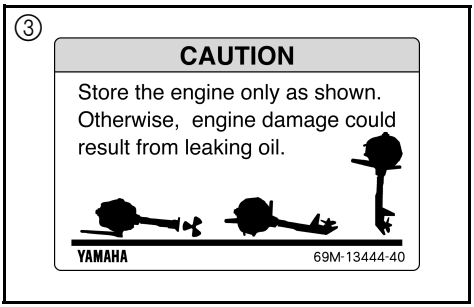
CAUTION LABELS





EMU00015

BASIC BOATING RULES (Rules of the road)

Just as there are rules which apply when you are driving on streets and high ways, there are waterway rules which apply when you are driving your boat. These rules are used internationally, and are also enforced by the United States Coast Guard and local agencies. You should be aware of these rules, and follow them whenever you encounter another vessel on the water.

Several sets of rules prevail according to geographic location, but are all basically the same as the International Rules of the Road. The rules presented here in your Owner's Manual are condensed, and have been provided for your convenience only. Consult your local U.S. Coast Guard Auxiliary or Department of Motor Vehicles for a complete set of rules governing the waters in which you will be using your boat.

STEERING AND SAILING RULES AND SOUND SIGNALS

Whenever two vessels on the water meet one another, one vessel has the right-of-way; it is called the "stand-on" vessel. The vessel which does not have the right-of-way is called the "give-way" or "burdened" vessel. These rules determine which vessel has the right-of-way, and what each vessel should do.

Stand-on vessel

The vessel with the right-of-way has the duty to continue its course and speed, except to avoid an immediate collision. When you maintain your direction and speed, the other vessel will be able to determine how best to avoid you.

Give-way vessel

The vessel which does not have the right-of-way has the duty to take positive and timely action to stay out of the way of the Stand-On vessel. Normally, you should not cross in front of the vessel with the right-of-way. You should slow down or change directions briefly and pass behind the other vessel. You should always move in such a way that the operator of the other vessel can see what you are doing.

"The general prudential rule"

This rule is called Rule 2 in the International Rules and says,

> 'In obeying and construing these rules due regard shall be had to all dangers of navigation and collision, and to any special circumstances, which may render a departure from the above rules necessary in order to avoid immediate danger.'

In other words, follow the standard rules except when a collision will occur unless both vessels try to avoid each other. If that is the case, both vessels become "Give-Way" vessels.

RULES WHEN ENCOUNTERING VESSELS

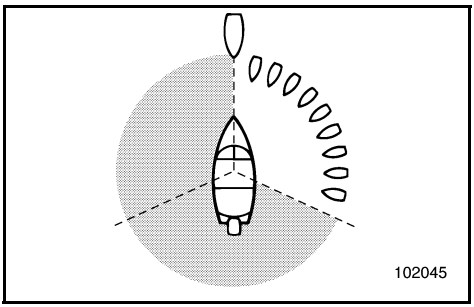
There are three main situations which you may encounter with other vessels which could lead to a collision unless the Steering Rules are followed:

Meeting
(you are approaching another vessel head-on)

Crossing
(you are traveling across the other vessel's path)

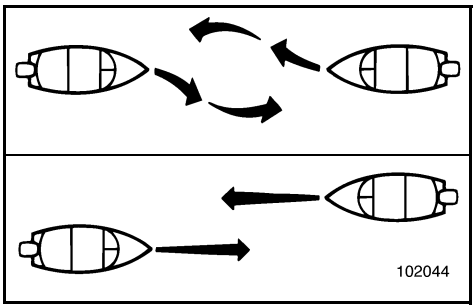
Overtaking
(you are passing or being passed by another vessel)

In the following illustration, your boat is in the center. You should give the right-of-way to any vessels shown in white area (you are the Give-Way vessel). Any vessels in the shaded area must yield to you (they are the Give-Way vessels). Both you and the meeting vessel must alter course to avoid each other.



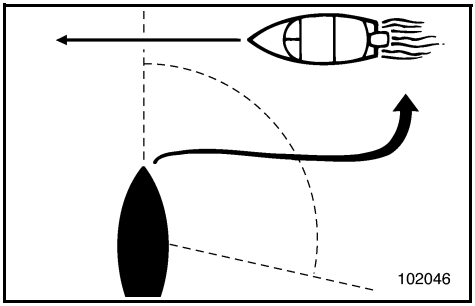
Meeting

If you are meeting another power vessel head on, and are close enough to run the risk of collision, neither of you has the right-of-way! Both of you should alter course to avoid an accident. You should keep the other vessel on your port (left) side. This rule doesn't apply if both of you will clear one another if you continue on your set course and speed.



Crossing

When two power driven vessels are crossing each other's path close enough to run the risk of collision, the vessel which has the other on the starboard (right) side must keep out of the way of the other. If the other vessel is on your right, you must keep out of its way; you are the Give-Way vessel. If the other vessel is on your port (left) side, remember that you should maintain course and direction, provided the other vessel gives you the right-of-way as it should.



Overtaking

If you are passing another vessel, you are the "Give-Way" vessel. This means that the

other vessel is expected to maintain its course and speed. You must stay out of its way until you are clear of it. Likewise, if another vessel is passing you, you should maintain your speed and direction so that the other vessel can steer itself around you.

OTHER SPECIAL SITUATIONS

There are three other rules you should be aware of when driving your boat around other vessels.

Narrow channels and bends

When navigating in narrow channels, you should keep to the right when it is safe and practical to do so. If the operator of a power-driven vessel is preparing to go around a bend that may obstruct the view of other water vessels, the operator should sound a prolonged blast on the whistle (4 to 6 seconds). If another vessel is around the bend, it too should sound the whistle. Even if no reply is heard, however, the vessel should still proceed around the bend with caution. If you navigate such waters with your boat, you will need to carry a portable air horn, available from local marine supply stores.

Fishing vessel right-of-way

All vessels which are fishing with nets, lines or trawls are considered to be “fishing vessels” under the International Rules. Vessels with trolling lines are not considered fishing vessels. Fishing vessels have the right-of-way regardless of position. Fishing vessels cannot, however, impede the passage of other vessels in narrow channels.

Sailing vessel right-of-way

Sailing vessels should normally be given the right-of-way. The exceptions to this are:

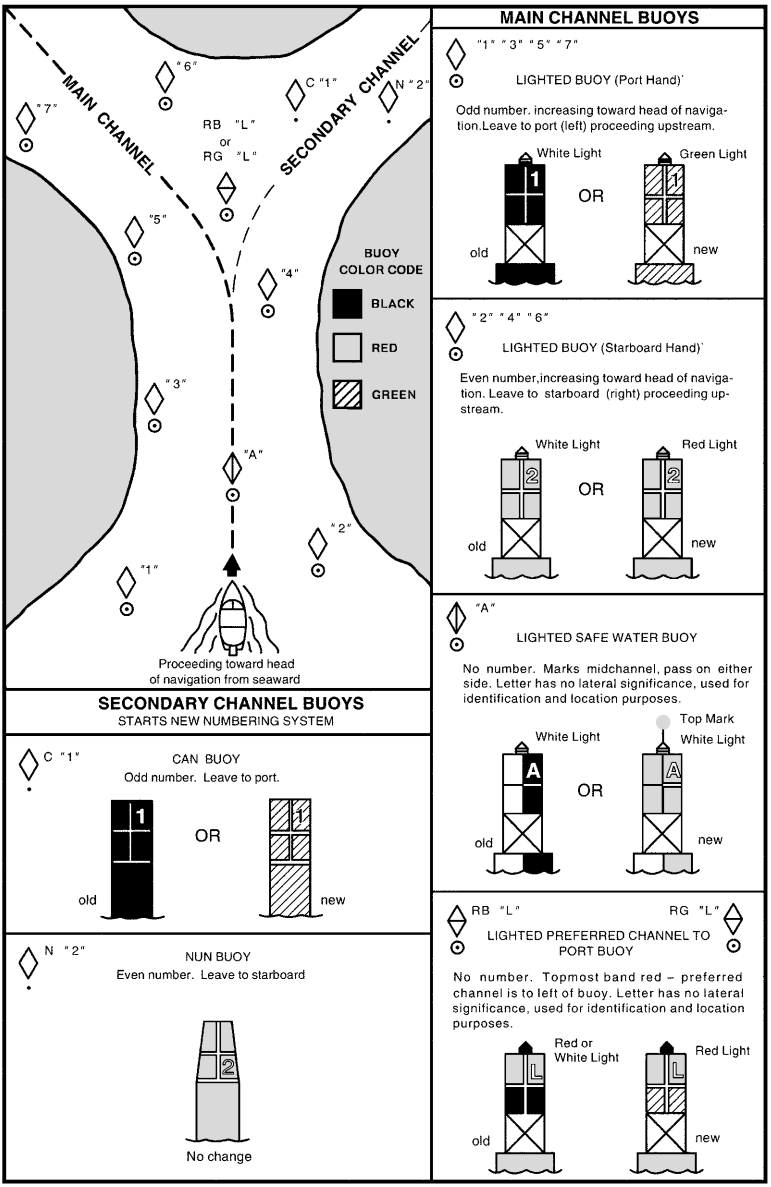
1. When the sailing vessel is overtaking the power-driven vessel, the power-driven vessel has the right-of-way.
2. Sailing vessels should keep clear of any fishing vessel.
3. In a narrow channel, a sailing vessel should not hamper the safe passage of a power-driven vessel which can navigate only in such a channel.

Reading buoys and other markers

The waters of the United states are marked for safe navigation by the lateral system of buoyage. Simply put, buoys and markers have an arrangement of shapes, colors, numbers and lights to show which side of the buoy a boater should pass on when navigating in a particular direction. The markings on these buoys are oriented from the perspective of being entered from seaward (the boater is going towards the port). This means that red buoys are passed on the starboard (right) side when proceeding from open water into port, and black buoys are to port (left) side. When navigating out of port, your position with respect to the buoys should be reversed; red buoys should be to port and black buoys to starboard.

Many bodies of water used by boaters are entirely within the boundaries of a particular state. The Uniform State Waterway Marking System has been devised for these waters. This system uses buoys and signs with distinctive shapes and colors to show regulatory or advisory information. These markers are white with black letters and orange boarders. They signify speed zones, restricted areas, danger areas, and general information.

Remember, markings may vary by geographic location. Always consult local boating authorities before driving your boat in unfamiliar waters.



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EMU00016

FUELING INSTRUCTIONS

⚠WARNING

GASOLINE AND ITS VAPORS ARE HIGHLY FLAMMABLE AND EXPLOSIVE!

- **Do not smoke when refueling, and keep away from sparks, flames, or other sources of ignition.**
- **Stop engine before refueling.**
- **Refuel in a well-ventilated area.**
- **Take care not to spill gasoline. If gasoline spills, wipe it up immediately with dry rags.**
- **Do not overfill the fuel tank.**
- **Tighten the filler cap securely after refueling.**
- **If you should swallow some gasoline inhale a lot of gasoline vapor, or get gasoline in your eyes, get immediate medical attention.**
- **If any gasoline spills onto your skin, immediately wash with soap and water. Change clothing if gasoline spills on it.**
- **Touch the fuel nozzle to the filler opening or funnel to help prevent electrostatic sparks.**

CAUTION:

Use only new clean gasoline which has been stored in clean containers and is not contaminated with water or foreign matter.

EMU18040
GASOLINE

Recommended gasoline:
Regular unleaded gasoline with a minimum octane rating of 86 (Pump Octane Number) = (R+M)/2

If knocking or pinging occurs, use a different brand of gasoline or premium unleaded fuel.

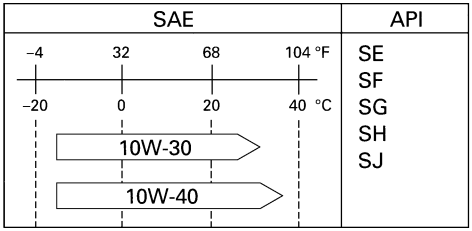
EMU00027
Gasohol

There are two types of gasohol: gasohol containing ethanol and that containing methanol. Gasohol containing ethanol can be used if ethanol content does not exceed 10% and the fuel meets minimum octane ratings. Gasohol containing methanol is not recommended by Yamaha because it can cause fuel system damage or engine performance problems.

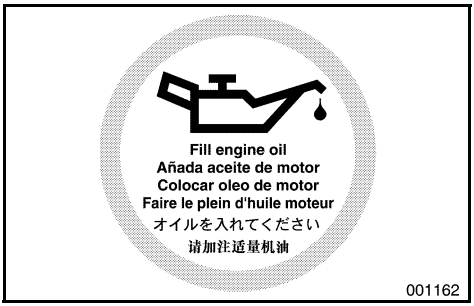
EMU17690

ENGINE OIL

Recommended engine oil:
4-stroke motor oil with a combination of corresponding SAE and API as shown in the chart.



Engine oil quantity:
See Chapter 4, “Specifications.”



CAUTION:

All 4-stroke engines are shipped from the factory without engine oil.

EMU01395

PROPELLER SELECTION

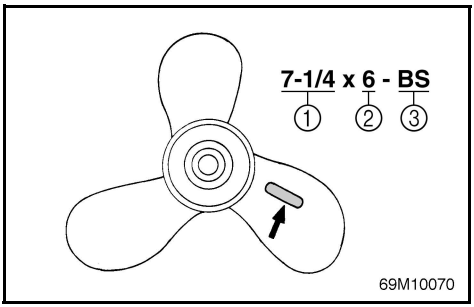
The performance of your outboard motor will be critically affected by your choice of propeller, as an incorrect choice could adversely affect performance and could also seriously damage the motor. Engine speed depends on the propeller size and boat load. If engine speed is too high or too low for good engine performance, this will have an adverse effect on the engine.

Yamaha outboard motors are fitted with propellers chosen to perform well over a range of applications, but there may be uses where a propeller with a different pitch would be more appropriate. For a greater operating load, a smaller-pitch propeller is more suitable as it enables the correct engine speed to be maintained. Conversely, a larger-pitch propeller is more suitable for a smaller operating load.

Yamaha dealers stock a range of propellers, and can advise you and install a propeller on your outboard that is best suited to your application.

NOTE:

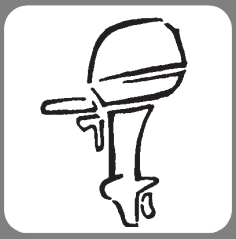
At full throttle and under a maximum boat load, the engine's rpm should be within the upper half of the full throttle operating range, as listed in "SPECIFICATIONS" on page 4-1. Select a propeller which fulfills this requirement. If operating under conditions which allow the engine's rpm to rise above the maximum recommended range (such as light boat loads), reduce the throttle setting to maintain the rpm in the proper operating range.



① Propeller diameter (in inches)
② Propeller pitch (in inches)
③ Type of propeller (propeller mark)

Refer to the section "CHECKING PROPELLER" for instructions on propeller removal and installation.

-MEMO-

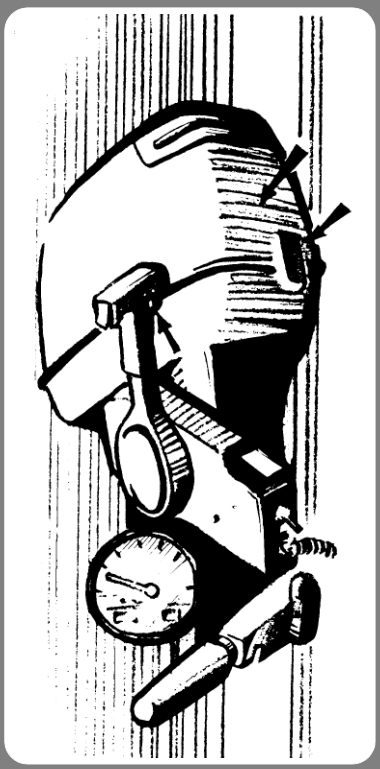


EMU00037

Chapter 2
BASIC COMPONENTS

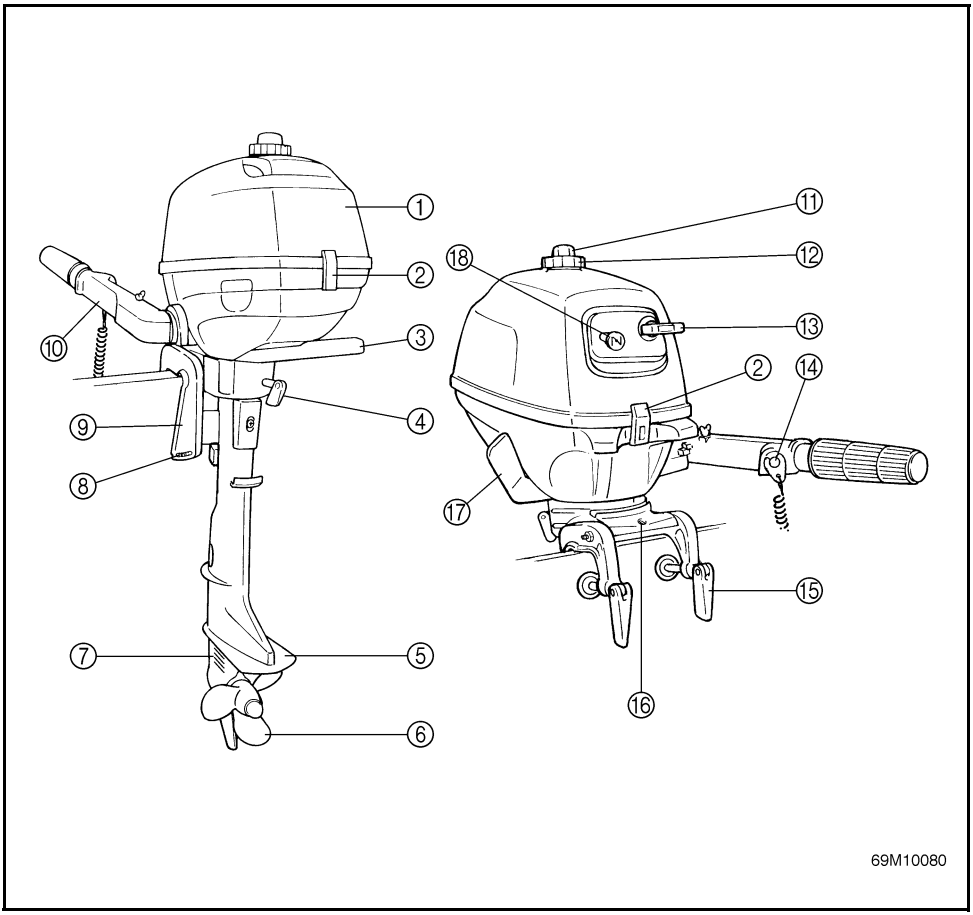
MAIN COMPONENTS 2-1

OPERATIONS OF CONTROLS AND OTHER FUNCTIONS 2-2
- Fuel tank 2-2
- Fuel cock 2-3
- Gear shift lever (for Tiller control model) 2-3
- Choke knob 2-4
- Recoil starter handle (If equipped) 2-4
- Tiller handle (for Tiller control model) 2-4
- Steering friction adjusting screw (for Tiller control model) 2-7
- Trim angle adjusting rod 2-7
- Tilt support lever 2-7
- Top cowling lock lever 2-8
- Carrying handle 2-8



EMU01206

MAIN COMPONENTS



① Top cowling
② Top cowling lock levers
③ Carrying handle
④ Steering friction adjusting screw
⑤ Anti-cavitation plate
⑥ Propeller
⑦ Cooling water inlet
⑧ Trim angle adjusting rod
⑨ Clamp bracket
⑩ Tiller handle
⑪ Air vent screw
⑫ Fuel tank cap
⑬ Recoil starter handle
⑭ Engine stop button/
Engine stop lanyard switch
⑮ Clamp screw
⑯ Rope attachment
⑰ Gear shift lever
⑱ Choke knob

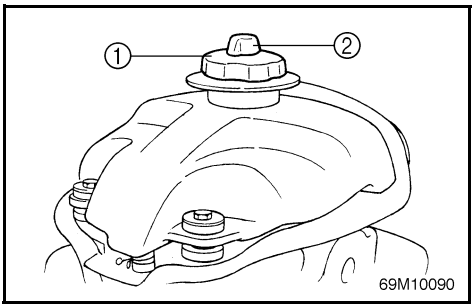
EMU00039

OPERATIONS OF CONTROLS AND OTHER FUNCTIONS

EMU01729

FUEL TANK

If your model included a fuel tank, its parts and functions are as follows.



① Fuel tank cap
② Air vent screw

EMU00045

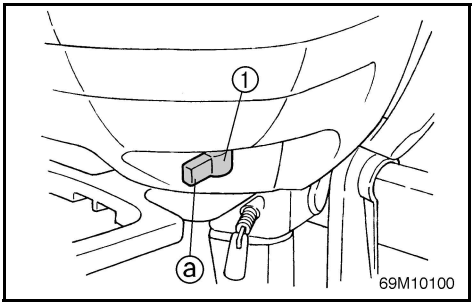
Fuel Tank Cap

This cap is for filling fuel. To remove it, turn it counterclockwise.

EMU00046

Air Vent Screw

This screw is on the fuel tank cap. To loosen it, turn it counterclockwise.



EMU00846

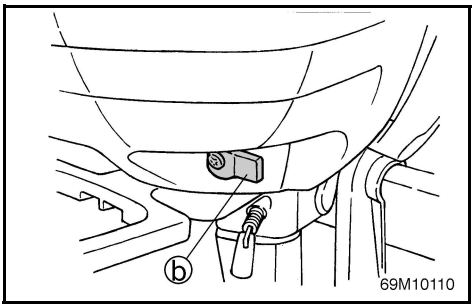
FUEL COCK

The fuel cock ① is to supply or stop fuel from the fuel tank to the engine.

EMU01731

CLOSE

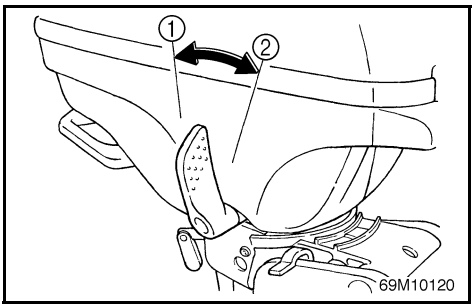
With the lever/knob in the position ⓐ, fuel does not flow. Always turn the knob to this position when the engine is not running.



EMU01732

OPEN

With the lever/knob in this position ⓑ, fuel flows to the carburetor. Normal running is done with the lever/knob in this position.

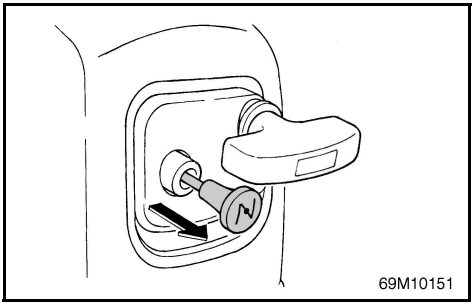


EMU00052

GEAR SHIFT LEVER (for Tiller control model)

Turning the gear-shift lever towards you engages the clutch with the forward gear so that the boat moves ahead.

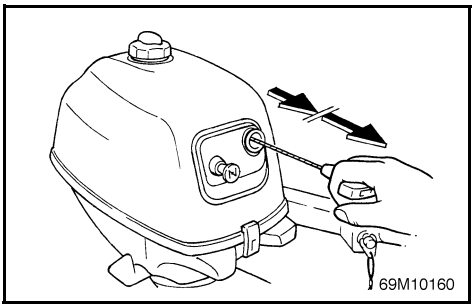
① Neutral
② Forward



EMU00057

CHOKE KNOB

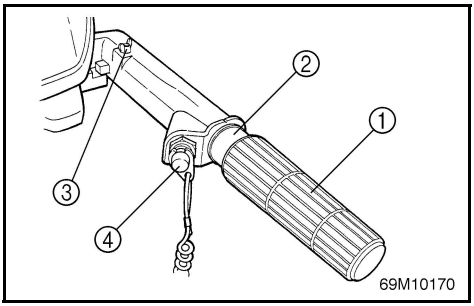
Pulling out this knob (setting it to ON) supplies a rich mixture required to start the engine.



EMU00059

RECOIL STARTER HANDLE (If equipped)

Pull the handle gently until resistance is felt. Then vigorously pull the handle straight out to crank the engine to start it.

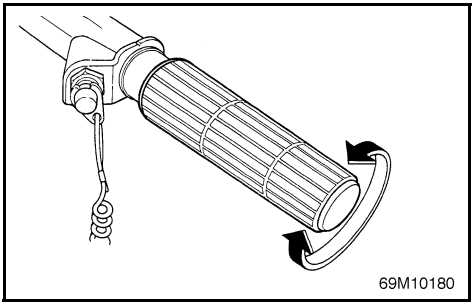


EMU00064

TILLER HANDLE (for Tiller control model)

Moving the tiller handle sideways to adjust the steering direction. In addition, this handle contains the functions as follows.

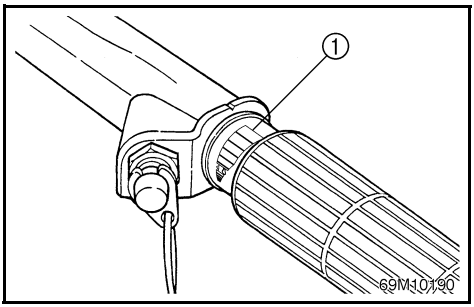
① Throttle control grip
② Throttle indicator
③ Throttle friction adjusting knob/screw
④ Engine stop button / Engine stop lanyard switch



EMU00065

Throttle Control Grip

The throttle control grip is on the tiller handle. Turn the grip counterclockwise to increase speed and clockwise to decrease speed.

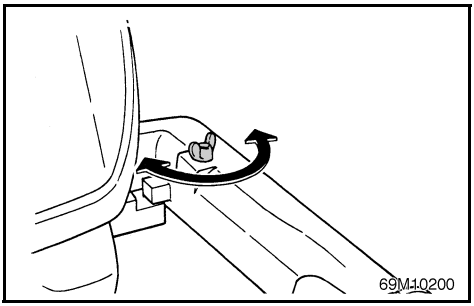


EMU00067

Throttle Indicator

The fuel consumption curve on the throttle indicator shows the relative amount of fuel consumed for each throttle position. Choose the setting that offers the best performance and fuel economy for the desired operation.

① Throttle indicator



EMU01293

Throttle friction adjusting screw/ knob

A friction device in the tiller handle provide resistance to movement of the throttle grip. This is adjustable for operator preference. An adjusting screw/knob is located within the tiller handle.

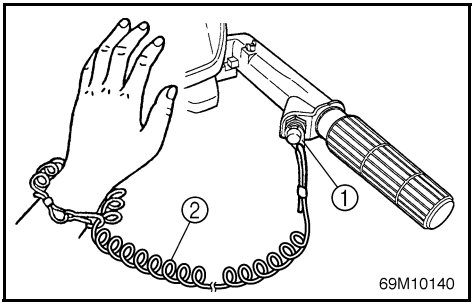
Resistance	Knob/Screw
Increase	Turn clockwise
Decrease	Turn counterclockwise

When constant speed is desired, tighten the adjusting screw/bolt to maintain the desired throttle setting.

⚠WARNING

Do not over tighten the friction adjusting screw/knob.

If there is too much resistance, it may be difficult to move the throttle grip, which could result in an accident.



EMU00932

Engine Stop Lanyard Switch

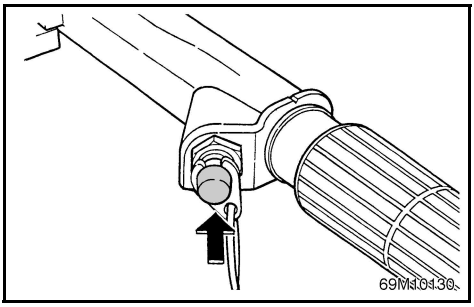
The lock-plate ① must be attached to the engine stop lanyard switch for the engine to run. The lanyard ② should be attached to a secure place on the operator's clothing, or arm or leg. Should the operator fall overboard or leave the helm, the lanyard will pull out the lock plate, stopping ignition to the engine. This will prevent the boat from running away under power.

⚠WARNING

- **Attach the lanyard to a secure place on your clothing, your arm or leg while operating.**
- **Do not attach the lanyard to clothing that could tear loose. Do not route the lanyard in such a way that it could become entangled, preventing it from functioning.**
- **Avoid accidentally pulling the lanyard during normal operation. Loss of engine power means the loss of most steering control. Also, without engine power, the boat could slow rapidly. This could cause people and objects in the boat to be thrown forward.**

NOTE:

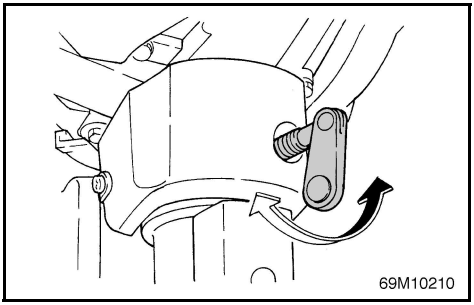
The engine cannot be started with the lock-plate removed.



EMU00072

Engine Stop Button

Pushing this button opens the ignition circuit and stops the engine.



EMU00108

STEERING FRICTION ADJUSTING SCREW (for Tiller control model)

A friction device provides resistance to steering movement. This is adjustable for operator preference. An adjusting screw/bolt is located on the swivel bracket.

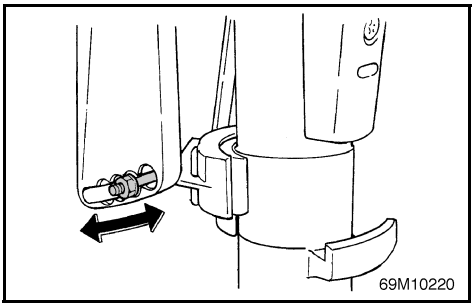
EMU01296

Adjustment

Resistance	Screw/Bolt
Increased	Turn clockwise
Decreased	Turn counterclockwise

⚠WARNING

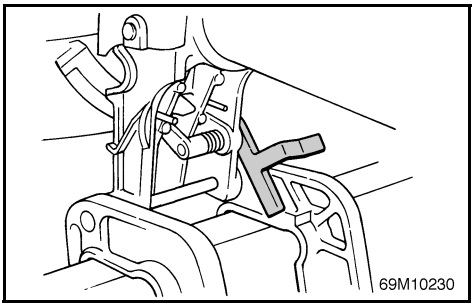
Do not over tighten the friction screw/ bolt. If there is too much resistance, it may be difficult to steer, which could result in an accident.



EMU01297

TRIM ANGLE ADJUSTING ROD

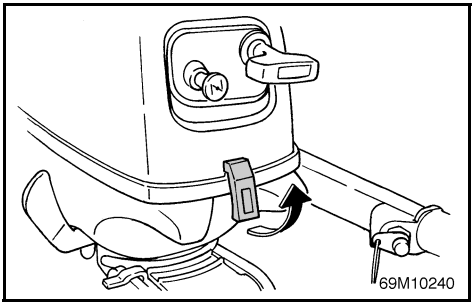
The position of the trim angle adjusting rod determines the minimum trim angle of the outboard motor in relation to the transom.



EMU00157

TILT SUPPORT LEVER

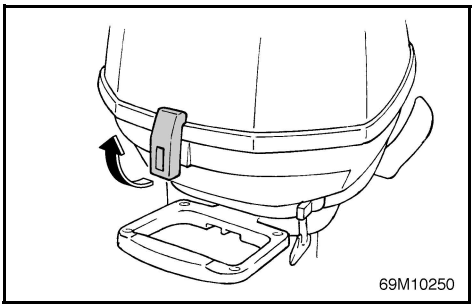
To keep the outboard motor in the tilted-up position, lock the tilt support lever to the clamp bracket.

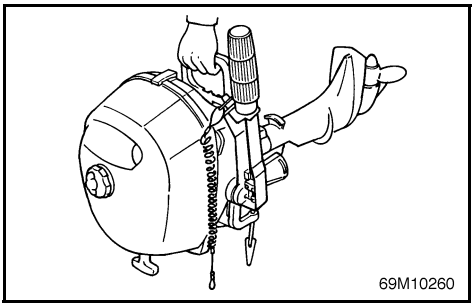


EMU00892

TOP COWLING LOCK LEVER

To remove the engine top cowling, pull up the lock lever(s). Then, lift off the cowling.
When replacing the cowling, check to be sure it fits properly. Then, lock the cowling again by moving the lever downward.





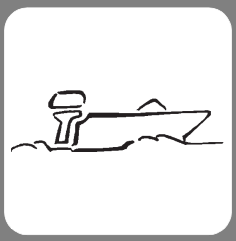
EMU01240

CARRYING HANDLE

A carrying handle is provided on the rear of the motor. The carrying handle is designed to balance the weight of the motor to make it easier to carry one-handed.

-MEMO-

E



EMU00174

Chapter 3
OPERATION

INSTALLATION 3-1
Mounting the outboard motor 3-2
Clamping the outboard motor 3-4

PRE-OPERATION CHECKS 3-5
Checking the engine oil level 3-6

FILLING FUEL 3-7

BREAKING IN (RUNNING IN) ENGINE 3-8

STARTING ENGINE 3-9
Procedure for tiller control model 3-10

WARMING UP ENGINE 3-12

CHECKING POINTS AFTER STARTING ENGINE 3-12

SHIFTING 3-13
Forward 3-13
Reverse 3-13

STOPPING ENGINE 3-14

TRIMMING OUTBOARD MOTOR 3-15
Adjusting trim angle 3-16

TILTING UP/DOWN 3-18
Procedure for tilting up 3-19
Procedure for tilting down 3-19

3

EMU00175

INSTALLATION

CAUTION:

Incorrect engine height or obstructions to smooth water flow (such as the design or condition of the boat or accessories such as transom ladders/depth finder transducers) can create airborne water spray while the boat is cruising. Severe engine damage may result if the motor is operated continuously in the presence of airborne water spray.

NOTE:

During water testing check the buoyancy of the boat, at rest, with its maximum load. Check that the static water level on the exhaust housing is low enough to prevent water entry into the powerhead, when water rises due to waves when the outboard is not running.

EMU01478

MOUNTING THE OUTBOARD MOTOR

⚠WARNING

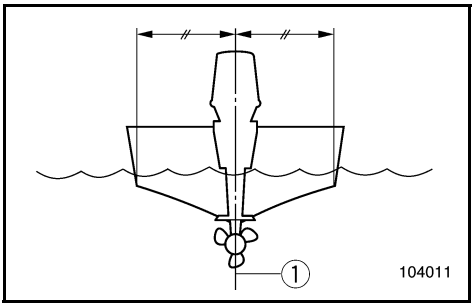
- **Overpowering a boat may cause severe instability. Do not install an outboard motor with more horsepower than the maximum rating on the capacity plate of the boat. If the boat does not have a capacity plate, consult the boat manufacturer.**
- **The information presented in this section is intended as reference only. It is not possible to provide complete instructions for every possible boat/motor combination. Proper mounting depends in part on experience and the specific boat/motor combination.**

⚠WARNING

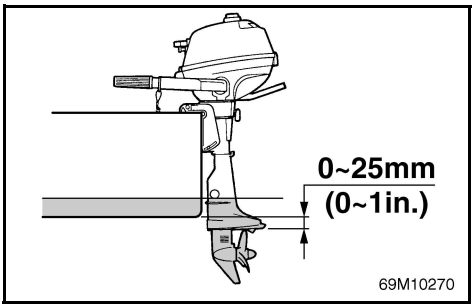
Improper mounting of the outboard motor could result in hazardous conditions such as poor handling, loss of control, or fire hazards. Observe the following:

- **For portable models, your dealer or other person experienced in proper outboard motor mounting should show you how to mount your motor.**

Mount the outboard motor on the center line (keel line) of the boat, and ensure that the boat itself is well balanced. Otherwise, the boat will be hard to steer. For boats without a keel or which are asymmetrical, consult your dealer.



① Center line (keel line)



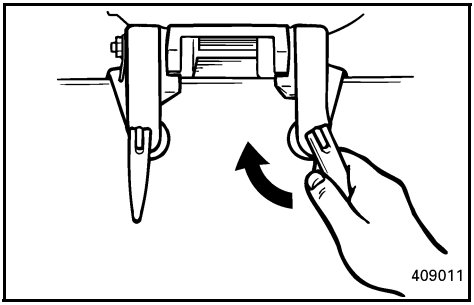
EMU01298

Mounting Height

To run your boat at optimum efficiency, the water-resistance (drag) of the boat and outboard motor must be made as little as possible. The mounting-height of the outboard motor greatly affects the water-resistance. If the mounting-height is too high, cavitation tends to occur, thus reducing the propulsion; and if the propeller tips cut the air, the engine speed will rise abnormally and cause the engine to overheat. If the mounting-height is too low, the water-resistance will increase and thereby reduce engine efficiency. Mount the engine so that the anti-cavitation plate is between the bottom of the boat and a level 25 mm (1 in.) below it.

NOTE:

- The optimum mounting height of the outboard motor is affected by the boat/motor combination and the desired use. Test runs at different heights can help determine the optimum mounting height.
- Refer to the section “TRIMMING OUTBOARD MOTOR” for instructions on setting the trim angle of the outboard.



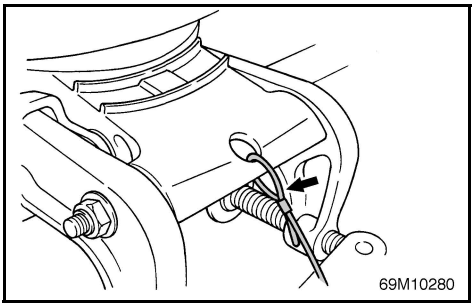
EMU00183

CLAMPING THE OUTBOARD MOTOR

1) Place the outboard on the transom so that it is positioned as close to the center as possible. Tighten the transom clamp screws evenly and securely. Check the clamp-screws for tightness occasionally during operation of the motor as they can work loose due to engine vibration.

⚠WARNING

Loose clamp screws could allow the motor to move on the transom or fall off the transom. This could cause loss of control and serious injury. Make sure the transom screws are tightened securely. Occasionally check the screws for tightness during operation.



2) An engine restraint cable or chain should be used. Attach one end to the engine restraint cable attachment point and the other to a secure mounting point on the boat. Otherwise, the engine could be completely lost if it accidentally falls off the transom.

EMU00204

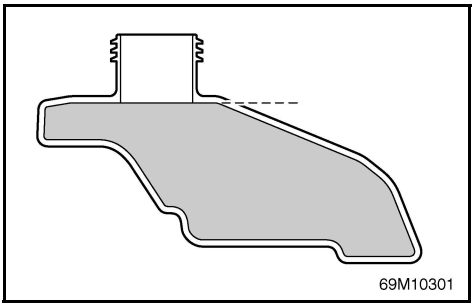
PRE-OPERATION CHECKS

⚠WARNING

If any item in the pre-operation check is not working properly, have it inspected and repaired before operating the outboard motor. Otherwise, an accident could occur.

CAUTION:

Do not start the engine out of water. Overheating and serious engine damage can occur.



EMU00205

Fuel

- Check to be sure you have plenty of fuel for your trip.
- Make sure there are no fuel leaks or gasoline fumes.

EMU00208

Oil

- Check the level of the oil in the sump with the dipstick. If necessary, add oil to bring the level up to the upper mark.

EMU00209

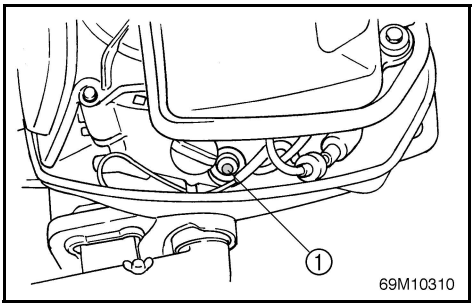
Controls

- Check throttle, shift, and steering for proper operation before starting the engine.
- The controls should work smoothly, without binding or unusual free play.
- Look for loose or damaged connections.
- Check operation of the starter and stop switches when the outboard motor is in the water.

EMU00210

Engine

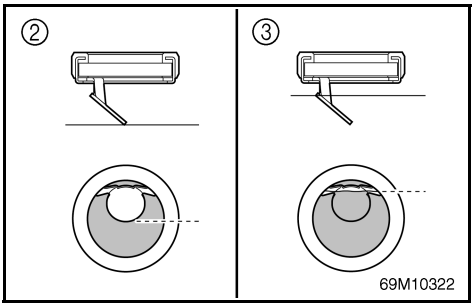
- Check the engine and engine mounting.
- Look for loose or damaged fasteners.
- Check the propeller for damage.



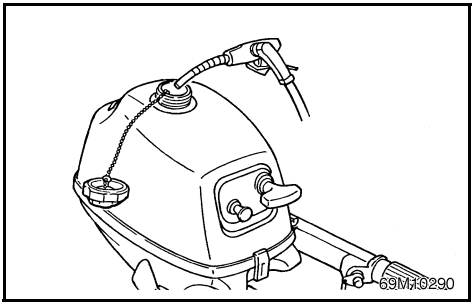
EMU01733

CHECKING THE ENGINE OIL LEVEL

1) Put the outboard motor in an upright position (not tilted).
2) Check the oil level using the oil level check window to be sure the level falls between the upper and lower marks. Fill with oil if it is below the lower mark, or drain to the specified level if it is above the upper mark.



① Oil level check window
② Lower level mark
③ Upper level mark



EMU00202

FILLING FUEL

1) Remove the fuel tank cap.
2) Fill the fuel tank carefully.
3) Close the cap securely after refueling. Wipe up any spilled fuel.

Fuel tank capacity:
Refer to SPECIFICATIONS, page 4-1.

EMU00203

Ring Free Fuel Additive

Gasoline is a precise blend of many different substances, each chosen to give certain characteristics. Gasoline blends have been changing in recent years in response to concerns about pollution and resulting emissions regulations. One of the most obvious changes has been the elimination of lead from most fuels.

As gasoline has changed, the amount of additives such as aromatics and oxygenates has increased. These additives are important for the engines in passenger cars, but they can have detrimental effects in marine engines, because of increased deposits in the combustion chamber. When enough deposits collect, piston rings begin sticking. Performance drops and engine wear increases dramatically.

While many additives available may reduce deposits, Yamaha recommends the use of Ring Free Fuel Additive, available from your Yamaha dealer. Ring Free has repeatedly proven its ability to clean combustion deposits from inside the engine, notably the critical piston-ring-land area, and fuel system components. Follow product labeling for use instructions.

EMU00224

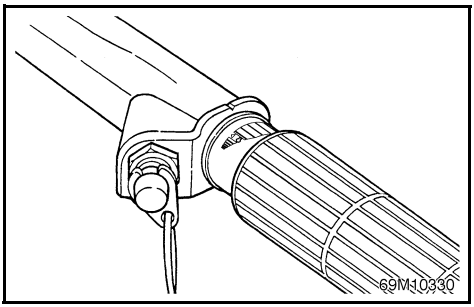
BREAKING IN (RUNNING IN) ENGINE

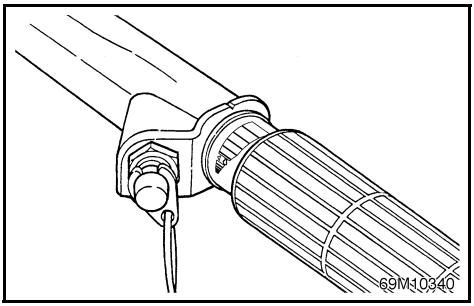
Your new engine requires a period of break-in (running-in) to allow mating surfaces of moving parts to wear-in evenly. Correct break-in (running-in) will help ensure proper performance and longer engine life.

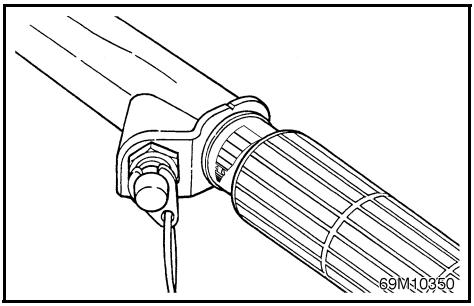
CAUTION:

Failure to follow the break-in (running-in) procedure may result in reduced engine life or even severe engine damage.

Break-in (running-in) time: 10 hours







EMU01367

Run the engine under load (in gear with a propeller installed) as follows.

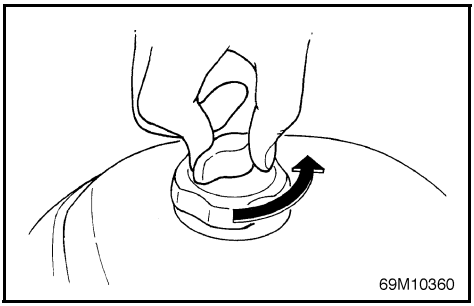
1) For the first hour of operation:
   Run the engine at 2,000 r/min or at approximately half throttle.
2) For the second hour of operation:
   Run the engine at 3,000 r/min or at approximately three-quarter throttle.
3) For the next eight hours of operation:
   Avoid continuous operation at full throttle for more than five minutes at a time.
4) After the first 10 hours:
   Operate the engine normally.

EMU01734

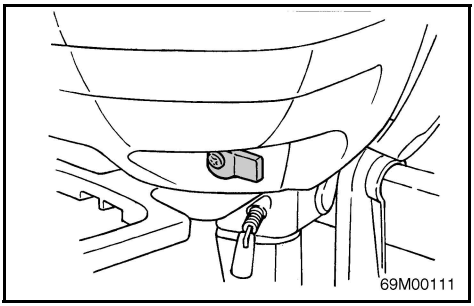
STARTING ENGINE

⚠WARNING

- **Before starting the engine, make sure that the boat is tightly moored and that you can steer clear of any obstructions. Be sure there are no swimmers in the water near you.**
- **When the air vent screw is loosened, gasoline (petrol) vapor will be released. Gasoline (petrol) is highly flammable, and its vapors are flammable and explosive. Refrain from smoking, and keep away from open flames and sparks while loosening the air vent screw.**
- **This product emits exhaust gases which contain carbon monoxide, a colorless, odorless gas which may cause brain damage or death when inhaled. Symptoms include nausea, dizziness, and drowsiness. Keep cockpit and cabin areas well ventilated. Avoid blocking exhaust outlets.**



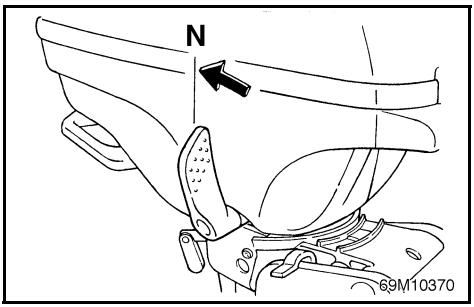
1) Loosen the air vent screw attached to the fuel tank cap by 1 turn.



2) Set the fuel cock in the “OPEN” position.

NOTE:

When the fuel cock is opened, it takes about 20 seconds for the fuel to travel to the carburetor.



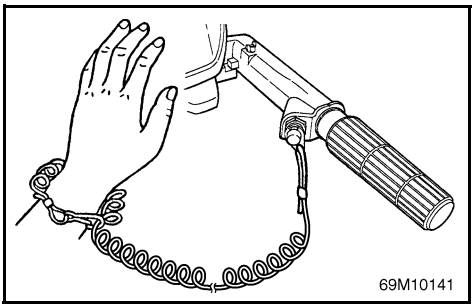
EEMU01735

PROCEDURE FOR TILLER CONTROL MODEL

3) Place the gear-shift lever in the neutral position.

⚠WARNING

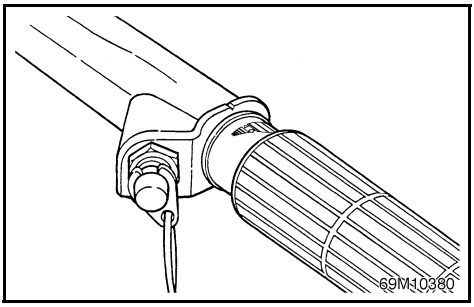
Always start the engine in Neutral to avoid accidentally moving the boat.



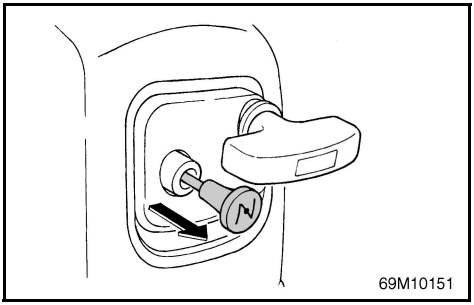
4) Attach the engine stop switch lanyard to a secure place on your clothing, or your arm or leg. Then, install the lock plate on the other end of the lanyard in the engine stop switch.

⚠WARNING

- **Attach the engine stop switch lanyard to a secure place on your clothing, your arm or leg while operating.**
- **Do not attach the lanyard to clothing that could tear loose. Do not route the lanyard where it could become entangled, preventing it from functioning.**
- **Avoid accidentally pulling the lanyard during normal operation. Loss of engine power means the loss of most steering control. Also, without engine power, the boat could slow rapidly. This could cause people and objects in the boat to be thrown forward.**



5) Place the throttle control grip in the “START” position.



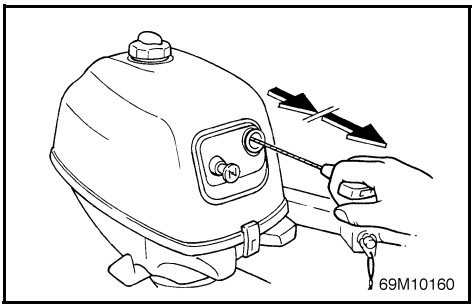
EMU01514*

Manual Start Models

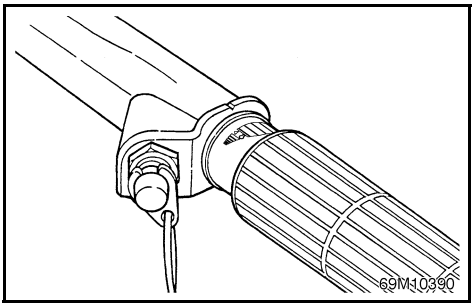
6) Pull out the choke knob completely.

NOTE:

It is not necessary to use the choke when restarting a warm engine.



7) Pull the starter handle slowly until you feel resistance. Then give a strong pull straight out to crank and start the engine. Repeat if necessary.



8) After the engine starts, return the starter handle slowly to the original position before releasing it.

NOTE:

- When starting a cold engine, the engine needs to be warmed up. Refer to "WARMING UP ENGINE" for details.
- If the engine doesn't start on the first try, repeat the procedure. If the engine fails to start after 4 or 5 tries, open the throttle a small amount (between 1/8 and 1/4) and try again. If the engine still fails to start, refer to "TROUBLESHOOTING" in Chapter 5.

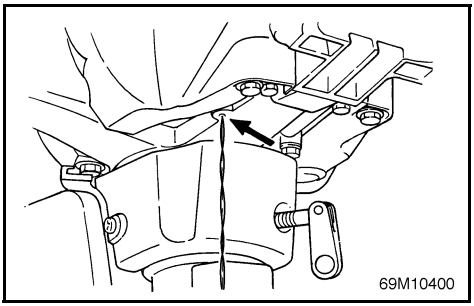
EMU01368

WARMING UP ENGINE

1) After the engine starts, return the choke knob to the half-way position. For approximately the first 5 minutes after starting, warm up the engine by operating at one fifth throttle or less. After the engine has warmed up, completely push in the choke knob. (Failure to do so will shorten engine life.)

NOTE:

- If the choke knob is left pulled out after the engine starts, the engine will stall.
- In temperatures of –5°C or less, leave the choke knob completely pulled out for approximately 30 seconds after starting. Then follow the standard instructions for warming up the engine.



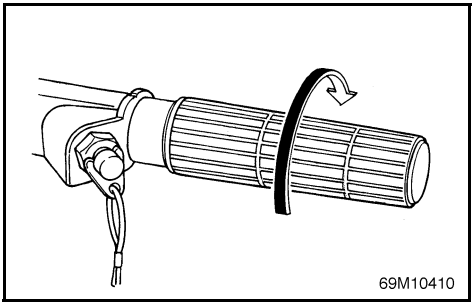
EMU01751

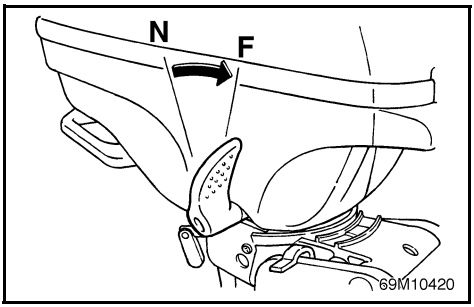
CHECKING POINTS AFTER STARTING ENGINE

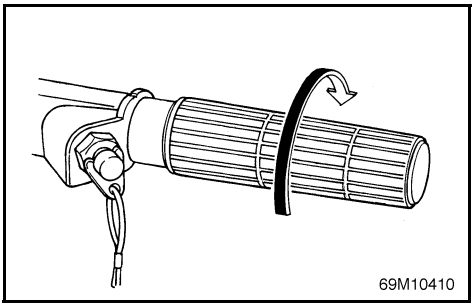
- Check for a steady flow of water from the cooling-water pilot hole.
- After the engine has warmed up, check that the engine idling speed is stable.

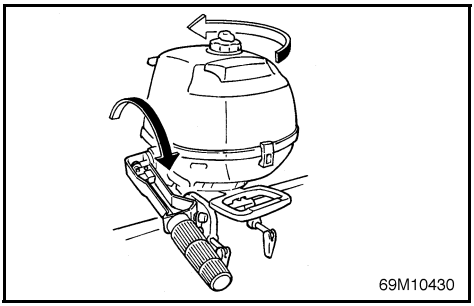
CAUTION:

If water is not flowing out of the pilot hole at all times while the engine is running, do not continue to run the engine. Overheating and serious damage could occur. Stop the engine and check if the water inlet on the lower casing is blocked. If the problem cannot be found and corrected, consult your Yamaha dealer.









EMU00261

SHIFTING

⚠WARNING

Before shifting, make sure there are no swimmers or obstacles in the water near you.

CAUTION:

To change the shifting position from forward to reverse or vice-versa, close the throttle first so that the engine idles (or runs at low speeds).

EMU00263

FORWARD

1) Place the throttle control grip in the fully closed position.
2) Turn the gear shift lever quickly and firmly from Neutral to Forward.

EMU01736

REVERSE

⚠WARNING

When operating in Reverse, go slowly. Do not open the throttle more than half. Otherwise, the boat may become unstable, which could result in loss of control and an accident.

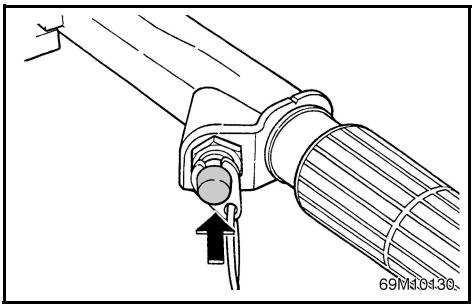
1) Place the throttle control grip in the fully closed position.
2) Turn the steering handle 180°.
3) Turn the gear shift lever quickly and firmly from Neutral to Reverse (toward the stern).

EMU00273

STOPPING ENGINE

EMU01737

1) Place the throttle control grip in the fully closed position.
2) Place the gear-shift lever in the neutral position.



3) Push and hold the engine stop button until the engine comes to a complete stop.
4) After stopping the engine, set the fuel cock to the closed position.
5) Tighten the air vent screw(s) on the fuel tank cap(s).

NOTE:

The engine can also be stopped by pulling the lanyard and removing the lock plate from the engine stop lanyard switch.

EMU01412

TRIMMING OUTBOARD MOTOR

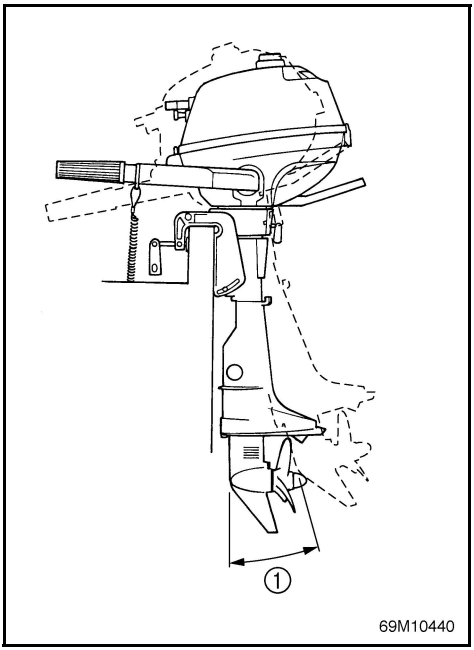
The trim angle of the outboard motor helps determine the position of the bow of the boat in the water. The correct trim angle will help improve performance and fuel economy while reducing strain on the engine. The correct trim angle depends upon the combination of boat, engine, and propeller. Correct trim is also affected by variables such as the load in the boat, sea conditions, and running speed.

⚠WARNING

Excessive trim for the operating conditions (either trim up or trim down) can cause boat instability and can make steering the boat more difficult. This increases the possibility of an accident. If the boat begins to feel unstable or is hard to steer, slow down and/or readjust the trim angle.

NOTE:

Refer to the section “ADJUSTING TRIM ANGLE” for instructions on usage.



① Trim operating angle

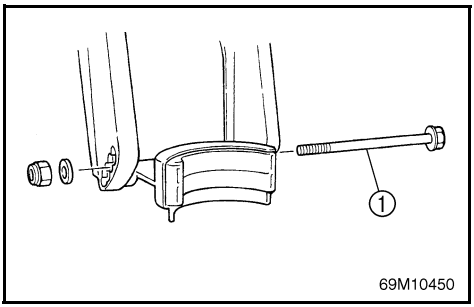
ADJUSTING TRIM ANGLE

EMU01738

Manual tilt model

There are 4 holes provided in the clamp bracket to adjust the outboard motor trim angle.

1) Stop the engine.



2) Loosen the trim angle adjusting rod nut, and then remove the trim angle adjusting rod ① while tilting the motor up.
3) Reposition the rod in the desired hole, and then tighten the nut.

To raise the bow ("trim-out"), move the rod away from the transom.

To lower the bow ("trim-in"), move the rod toward the transom.

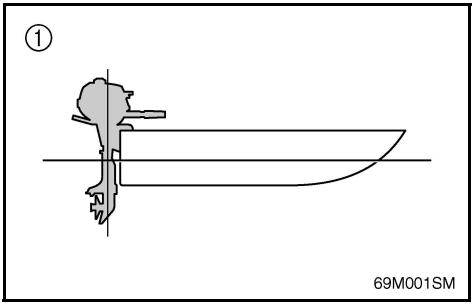
Make test runs with the trim set to different angles to find the position that works best for your boat and operating conditions.

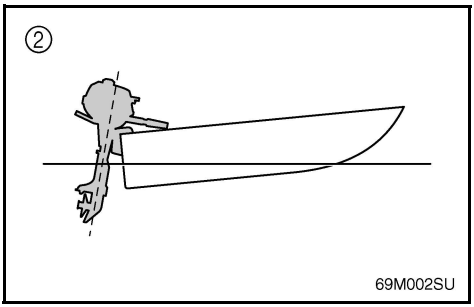
⚠WARNING

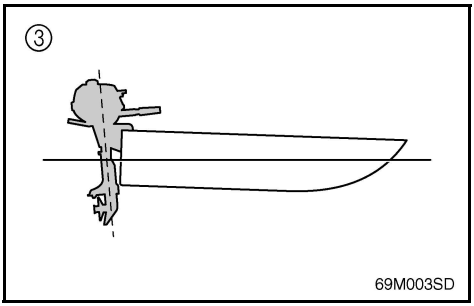
- **Stop the engine before adjusting the trim angle.**
- **Use care to avoid being pinched when removing or installing the rod.**
- **Use caution when trying a trim position for the first time. Increase speed gradually and watch for any signs of instability or control problems. Improper trim angle can cause loss of control.**

NOTE:

The outboard motor trim angle can be changed approximately 4 degrees by shifting the trim adjusting-rod one hole.







EMU19160

Trim angle settings and boat handling

When the boat is on plane, a bow-up attitude results in less drag, greater stability and efficiency. This is generally when the keel line of the boat is up about 3 to 5 degrees. With the bow up, the boat may have a greater tendency to steer to one side or the other. Compensate for this as you steer.

① Optimum angle (level keel line)
② Bow up
③ Bow down

Bow Up

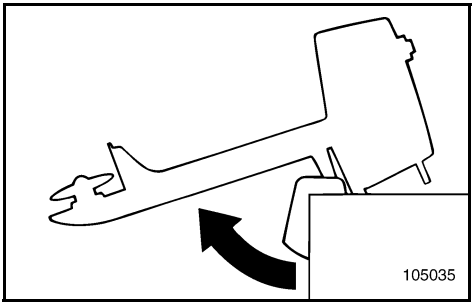
Too much trim-out puts the bow of the boat too high in the water. Performance and economy are decreased because the hull of the boat is pushing the water and there is more air drag. Excessive trim-out can also cause the propeller to ventilate, which reduces performance further, and the boat may “porpoise” (hop in the water), which could throw the operator and passengers overboard.

Bow Down

When the bow of the boat is down, it is easier to accelerate from a standing start onto plane. Too much trim-in causes the boat to “plow” through the water, decreasing fuel economy and making it hard to increase speed. Operating with excessive trim-in at higher speeds also makes the boat unstable. Resistance at the bow is greatly increased, heightening the danger of “bow steering” and making operation difficult and dangerous.

NOTE:

Depending on the type of boat, the outboard motor trim angle may have little effect on the trim of the boat when operating.



EMU01739

TILTING UP/DOWN

If the engine will be stopped for some time, or if the boat is moored in shallows, the engine should be tilted up to protect the propeller and casing from damage by collision with obstructions, and also to reduce salt corrosion.

CAUTION:

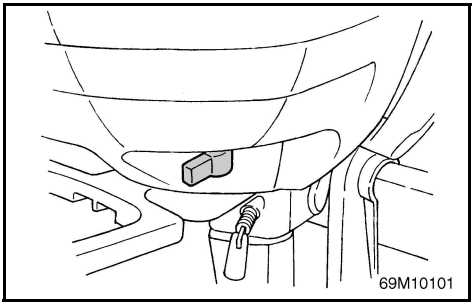
- **Before tilting the motor, follow the procedures under "STOPPING ENGINE". Never tilt the motor while the engine is running. Severe damage from overheating can result.**
- **Do not tilt up the engine by pushing the steering handle as this could break the handle.**
- **Keep the power unit higher than the propeller at all times. Otherwise, water can run into the cylinder, causing damage.**
- **The outboard cannot be tilted up when the outboard is turned 180° (facing to the rear).**

⚠WARNING

When adjusting the tilt angle, be careful not to pinch any body parts between the drive unit and engine bracket.

⚠WARNING

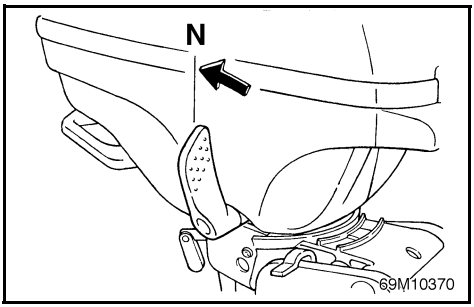
Leaking fuel is a fire hazard. Tighten the air-vent screw and place the fuel cock in the closed position if the engine will be tilted for more than a few minutes. Otherwise, fuel may leak.



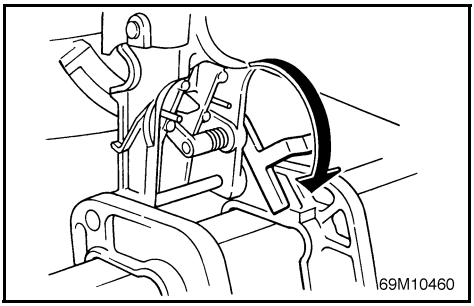
EMU01740

PROCEDURE FOR TILTING UP

1) Tighten the air vent screw(s).
2) Place the fuel cock in the closed position.



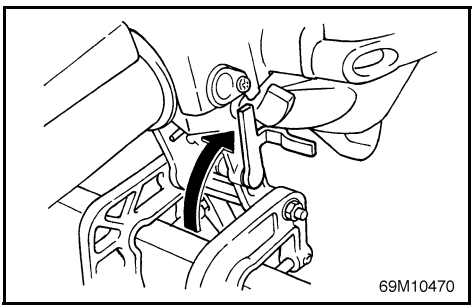
3) Place the gear shift lever in Neutral and face the motor forward.



4) Hold the rear handle and tilt the engine up fully until the tilt support lever automatically turns to the locked position.

NOTE:

If the motor is not facing forward, the tilt support lever cannot automatically turn to the locked position. If the tilt support lever does not automatically turn to the locked position, swing the motor a little to the left and right.

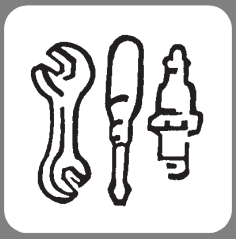


EMU00297

PROCEDURE FOR TILTING DOWN

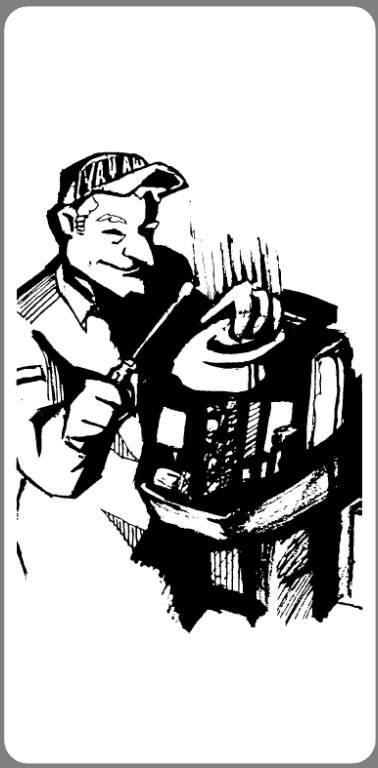
1) Return the tilt support lever tilting up the engine slightly.
2) Tilt down the engine.

E



EMU00317

Chapter 4
MAINTENANCE



SPECIFICATIONS 4-1

TRANSPORTING AND STORING OUTBOARD MOTOR 4-2
- Trailering outboard motor 4-2
- Transporting outboard when unmounted 4-3
- Storing outboard motor 4-3

PERIODIC MAINTENANCE 4-7
- Replacement parts 4-7
- Maintenance chart 4-8
- Greasing 4-9
- Cleaning and adjusting spark plug 4-10
- Checking fuel system 4-12
- Inspecting idling speed 4-13
- Changing engine oil 4-14
- Checking wiring and connectors 4-16
- Exhaust leakage 4-16
- Water leakage 4-16
- Engine oil leakage 4-16
- Checking propeller 4-17
- Changing gear oil 4-19
- Inspecting and replacing anode(s) 4-20
- Checking bolts and nuts 4-20
- Checking top cowling 4-20
- Motor exterior 4-21
- Coating the boat bottom 4-21

4

EMU18700

SPECIFICATIONS

Item \ Model		Unit	F2.5MHC
DIMENSIONS			
Overall length		mm (in.)	623 (24.5)
Overall width		mm (in.)	345 (13.6)
Overall height	S	mm (in.)	1,021 (40.2)
Transom height	S	mm (in.)	432 (17.0)
Weight	S	kg (lb.)	17.0 (37.5)
PERFORMANCE			
Full throttle operating range		r/min	5,250–5,750
Maximum output		kW (HP) @ r/min	1.8 (2.5) @ 5,500
Idling speed (in neutral)		r/min	1,900
ENGINE			
Type			4-stroke, OHV, Single
Displacement		cm^3 (cu.in.)	72 (4.39)
Bore × stroke		mm (in.)	54.0 × 31.5 (2.13 × 1.24)
Ignition system			TCI system
Spark plug		NGK	BR6HS
Spark plug gap		mm (in.)	0.6–0.7 (0.024–0.028)
Control system			Tiller control
Starting system			Manual start
Valve clearance (cold engine)	IN	mm (in.)	0.08–0.12 (0.0031–0.0047)
	EX	mm (in.)	0.08–0.12 (0.0031–0.0047)
Battery			
Min. cold cranking amps (CCA/SAE)		amps at -18°C (-0.4°F)	—
Min. marine cranking amps (MCA/ABYC)		amps at 0°C (32°F)	—
Min. reserve capacity (RC/SAE)		minutes	—
Alternator output		V-A (W)	—
Starting carburation system			Choke start
DRIVE UNIT			
Gear positions			Forward-Neutral
Gear ratio			2.08 (27/13)
Trim and tilt system			Manual tilt
Propeller mark			BS
FUEL AND OIL			
Recommended fuel			Regular unleaded gasoline
		P.O.N.	Minimum 86
Fuel tank capacity		L (US gal, Imp gal)	0.9 (0.24, 0.20)
Recommended engine oil			4-stroke motor oil
		API	SE, SF, SG, SH, SJ
		SAE	10W-30,10W-40
Engine oil capacity (excluding oil filter)		L (US qt, Imp qt)	0.35 (0.37, 0.31)
(including oil filter)		L (US qt, Imp qt)	—
Recommended gear oil			Hypoid gear oil (SAE 90)
Gear oil capacity		cm^3 (US oz, Imp oz)	75 (2.54, 2.65)
TIGHTENING TORQUE			
Spark plug		N·m (kgf·m, lb·ft)	24 (2.4, 17)
Propeller nut		N·m (kgf·m, lb·ft)	—
Engine oil drain bolt		N·m (kgf·m, lb·ft)	18 (1.8, 13)

EMU01369

TRANSPORTING AND STORING OUTBOARD MOTOR

⚠WARNING

Leaking fuel is a fire hazard. When transporting and storing the outboard motor, close the air vent screw and fuel cock to prevent fuel from leaking.

EMU00326

TRAILERING OUTBOARD MOTOR

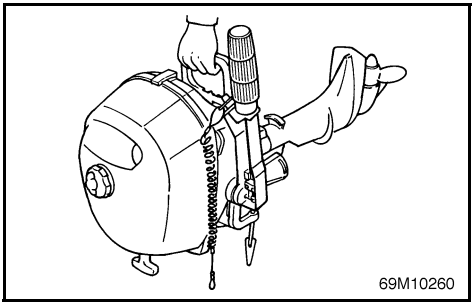
The motor should be trailered and stored in the normal running position. If there is insufficient road clearance in this position, then trailer the motor in the tilt position using a motor support device such as a transom saver bar. For further details, consult your Yamaha dealer.

⚠WARNING

- **Never get under the lower unit while it is tilted, even if a motor support bar is used. Severe injury could occur if the outboard accidentally falls.**
- **DO NOT fill fuel container to maximum capacity. Gasoline will expand considerably as it warms up and can build up pressure in the fuel container. This can cause fuel leakage and a potential fire hazard.**

CAUTION:

Do not use the tilt support lever/knob when trailering the boat. The outboard motor could shake loose from the tilt support and fall. If the motor can not be trailered in the down position, use an additional support device to secure it in the up position.


69M10260

EMU01362

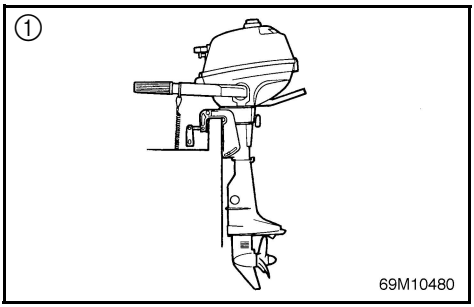
TRANSPORTING OUTBOARD WHEN UNMOUNTED

Transport in an upright position to prevent engine oil from entering the cylinder head and causing damage to the motor.

EMU00330

STORING OUTBOARD MOTOR

When storing your Yamaha outboard for prolonged periods of time, (2 months or longer), several important procedures must be performed to prevent expensive damage. It is advisable to have your outboard serviced by an authorized Yamaha dealer prior to storage. However, the following procedures can be performed by you, the owner, with a minimum of tools.



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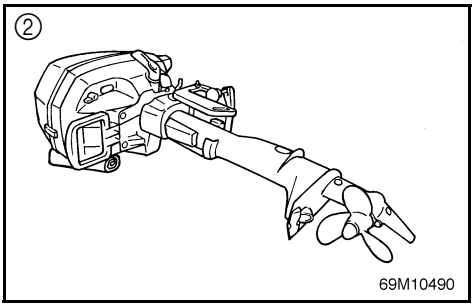

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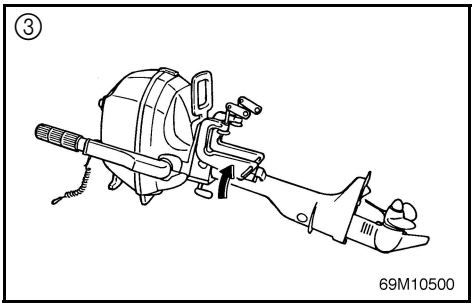


69M10500

CAUTION:

- **To prevent problems which can be caused by oil entering the cylinder from the sump, keep the engine in the attitude shown when transporting and storing it.**
- **Do not place the engine on its side before the cooling water has drained from it completely, or water may enter the cylinder through the exhaust port and cause problems.**
- **Store the engine in a dry, well-ventilated place, not in direct sunlight.**

① Vertical position
② Horizontal position
③ With the recoil starter facing downward (clamp screw facing upward)

EMU00335

Filling Fuel Tank

Fill the fuel tank with fresh fuel and add one ounce of “Yamaha Fuel Conditioner and Stabilizer” (Part No. LUB-FUELC-12-00) to each gallon of fuel.

NOTE:

The use of “Yamaha Fuel Conditioner and Stabilizer” eliminates the need to drain the fuel system. Consult your Yamaha dealer or other qualified mechanic if the fuel system is to be drained instead.

EMU00338

Flushing Cooling System and Fogging Engine

Cooling system flushing is essential to prevent the cooling system from clogging up with salt, sand, or dirt. In addition, fogging of the engine is mandatory to prevent expensive engine damage due to rust. Perform the flushing and fogging at the same time.

⚠WARNING

- **Do not touch or remove electrical parts when starting or during operation.**
- **Keep hands, hair and clothes away from flywheel and other rotating parts while engine is running.**

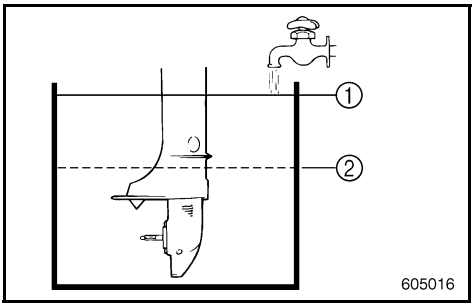
EMU00340

- **Flushing in a Water Tank**

CAUTION:

If the fresh water level is below the level of the anti-cavitation plate, or if the water supply is insufficient, engine seizure may occur.

1) Remove the engine top cowling.
2) Install the outboard motor on the water tank.
3) Fill the tank with fresh water to above the level of the anti-cavitation plate.
4) Run the engine at a fast idle for 10~15 minutes.
5) Just prior to turning off the engine, quickly spray “Yamaha Stor-Rite Engine Fogging Oil” (Part No. LUB-STRRT-12-00) into the silencer cover. When properly done, the engine will smoke excessively and almost stall.
6) Remove the motor from the water tank.
7) Install the top cowling.



① Water surface
② Lowest water level

EMU00349

Lubrication

1) Remove the spark plug(s). Spray a Yamaha “Stor-Rite Engine Fogging Oil” into each cylinder for 10 seconds. Grease the spark plug threads and reinstall the spark plug(s) and torque to proper specification. (Refer to the “CLEANING AND ADJUSTING SPARK PLUG”).
2) Turn the engine over with the stop lanyard disconnected to work the fogging oil into the piston rings.
3) Change the gear-case oil. (Refer to “CHANGING GEAR OIL”). Inspect the oil for the presence of water which indicates a leaky seal. Seal replacement should be performed by an authorized Yamaha dealership prior to use.
4) Grease all grease fittings. (Refer to the “GREASING”)

EMU00351

Cleaning and Anti-corrosion Measure

1) Wash down the exterior of the outboard with fresh water and dry off completely.
2) Spray the engine’s exterior with “Yamaha Silicone Protectant” (Part No. LUB-SILCNE-13-00).
3) Wax the cowling with a non-abrasive wax such as “Yamaha Silicone Wax” (Part No. ACC-11000-15-02).

EMU01569

PERIODIC MAINTENANCE

⚠WARNING

Be sure to turn off the engine when you perform maintenance unless otherwise specified. If the owner is not familiar with machine servicing, this work should be done by a Yamaha dealer or other qualified mechanic.

Maintenance, replacement, or repair of the emission control devices and systems may be performed by any marine engine repair establishment or individual. All warranty repairs, however, including those to the emission control system, must be performed by an authorized Yamaha marine dealership.

A service manual is available for purchase through a Yamaha dealer for owners who have the mechanical skills, tools, and other equipment necessary to perform maintenance not covered by this owner's manual.

EMU00356

REPLACEMENT PARTS

If replacement parts are necessary, use only genuine Yamaha parts or equivalents of the same type and of equivalent strength and materials. Any part of inferior quality may malfunction, and the resulting loss of control could endanger the operator and passengers.

Yamaha genuine parts and accessories are available from a Yamaha dealer.

EMU19310

MAINTENANCE CHART

Frequency of maintenance operations may be adjusted according to the operating conditions, but the following table gives general guidelines. Refer to the sections in this chapter for explanations of each owner-specific action.

The mark (●) indicates the check-ups which you may carry out yourself.

The mark (❍) indicates work to be carried out by your Yamaha dealer.

Item	Actions	Initial		Every	
		10 hours (1 month)	50 hours (3 months)	100 hours (6 months)	200 hours (1 year)
Spark plug(s)	Cleaning / adjustment / replacement	●			●
Greasing points	Greasing			●	
Gear oil	Change	●		●	
Fuel system	Inspection	●	●	●	
Fuel filter (inside built-in fuel tank)	Inspection / cleaning				❍
Fuel tank (built-in tank)	Inspection / cleaning				❍
Idling speed (carburetor models)	Inspection / adjustment	●/❍		●/❍	
Anode(s)	Inspection / replacement		●/❍	●/❍	❍
Cooling water passages	Cleaning		●	●	
Propeller and cotter pin	Inspection / replacement		●	●	
Throttle link / throttle cable / throttle pick-up timing	Inspection / adjustment				❍
Shift link / shift cable	Inspection / adjustment				❍
Thermostat	Inspection				❍
Water pump	Inspection				❍
Engine oil	Inspection / change	●		●	
Valve clearance (OHC, OHV)	Inspection / adjustment	❍		❍	
Cowling clamp	Inspection				●

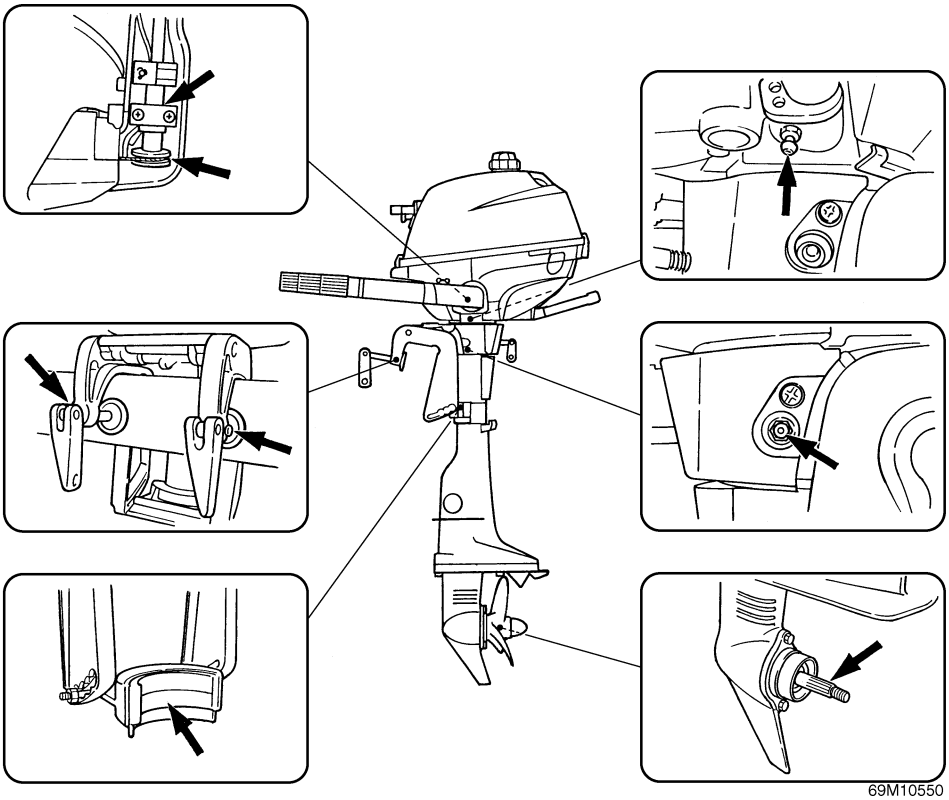
NOTE:

When operating in salt water, turbid or muddy water, the engine should be flushed with clean water after each use.

EMU00366

GREASING

Yamaha marine grease
(Water resistant grease)



EMU01202

CLEANING AND ADJUSTING SPARK PLUG

⚠WARNING

When removing or installing a spark plug, be careful not to damage the insulator. A damaged insulator could allow external sparks, which could lead to explosion or fire.

The spark plug is an important engine component and is easy to inspect. The condition of the spark plug can indicate something about the condition of the engine. For example, if the center electrode porcelain is very white, this could indicate an intake air leak or carburetion problem in that cylinder. Do not attempt to diagnose any problems yourself. Instead, take the outboard motor to a Yamaha dealer. You should periodically remove and inspect the spark plug because heat and deposits will cause the spark plug to slowly break down and erode. If electrode erosion becomes excessive, or if carbon and other deposits are excessive, you should replace the spark plug with another of the correct type.

Standard spark plug:
Refer to “SPECIFICATIONS”, page 4-1.

Before fitting the spark plug, measure the electrode gap with a wire thickness gauge; adjust the gap to specification if necessary.

Spark plug gap:
Refer to “SPECIFICATIONS”, page 4-1.

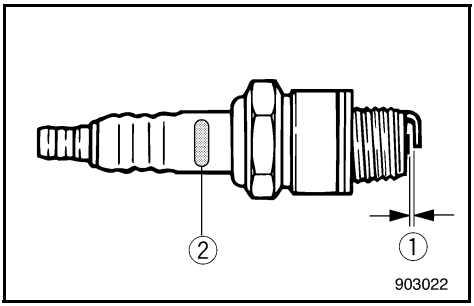
When fitting the plug, always clean the gasket surface and use a new gasket. Wipe off any dirt from the threads and screw in the spark plug to the correct torque.

Spark plug torque: Refer to “SPECIFICATIONS”, page 4-1.

NOTE:

If a torque-wrench is not available when you are fitting a spark plug, a good estimate of the correct torque is 1/4 to 1/2 a turn past finger-tight. Have the spark plug adjusted to the correct torque as soon as possible with a torque-wrench.

Initial of spark plug I.D. mark	Plug wrench size
B	21 mm (13/16 in.)
C/BK	16 mm (5/8 in.)
D	18.3 mm (23/32 in.)



① Spark plug gap
② Spark plug I.D. mark (NGK)

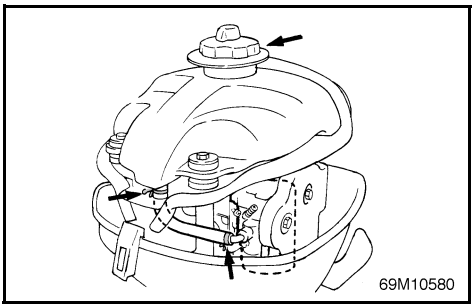
EMU01509

CHECKING FUEL SYSTEM

⚠WARNING

Gasoline (petrol) and its vapors are highly flammable and explosive. Keep away from sparks, cigarettes, flames or other sources of ignition.

Check the fuel line for leaks, cracks, or malfunctions. If any problem is found, it should be repaired immediately by Yamaha dealer or other qualified mechanic.



Checkpoints

- Fuel system parts leakage.
- Fuel hose joint leakage.
- Fuel hose cracks or other damage.

⚠WARNING

Leaking fuel can result in fire or explosion.

- **Check for fuel leakage regularly.**
- **If any fuel leakage is found, the fuel system must be repaired by a qualified mechanic. Improper repairs can make the outboard unsafe to operate.**

EMU09912

INSPECTING IDLING SPEED

⚠WARNING

- **Do not touch or remove electrical parts when starting or during operation.**
- **Keep hands, hair and clothes away from flywheel and other rotating parts while engine is running.**

CAUTION:

This procedure must be performed while the outboard motor is in the water. A flushing attachment or test tank can also be used.

A diagnostic tachometer should be used for this procedure. Results may vary depending on whether testing is conducted with the flushing attachment, in a test tank, or with the outboard motor in the water.

1) Start the engine and allow it to warm up fully in neutral until it is running smoothly. If the outboard motor is mounted on a boat, be sure the boat is tightly moored.
2) Verify whether the idle speed is set to specification. For idle speed specifications, see “Specifications” in this chapter.

NOTE:

Correct idling speed inspection is only possible if the engine is fully warmed up. If not warmed up fully, the idle speed will measure higher than normal. If you have difficulty verifying the idle speed, or the idle speed requires adjustment, consult a Yamaha dealer or other qualified mechanic.

EMU01742

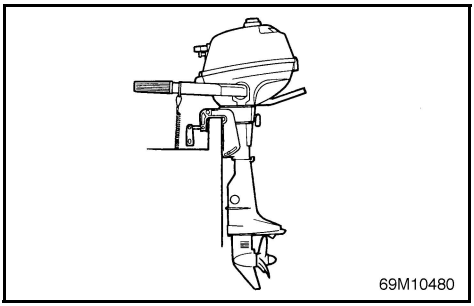
CHANGING ENGINE OIL

⚠WARNING

- **Avoid draining the engine oil immediately after stopping the engine. The oil is hot and should be handled with care to avoid burns.**
- **Be sure the outboard is securely fastened to the transom or a stable stand.**

CAUTION:

- **Change the engine oil after the first 10 hours of operation, and every 100 hours or at 6-month intervals thereafter. Otherwise, the engine will wear quickly.**
- **Do not overfill the oil, and be sure the engine is in an upright position (not tilted) when checking and changing the engine oil.**
- **If the oil level is above the upper level mark, drain until the level meets the specified capacity. Overfilling the oil may cause leakage or damage.**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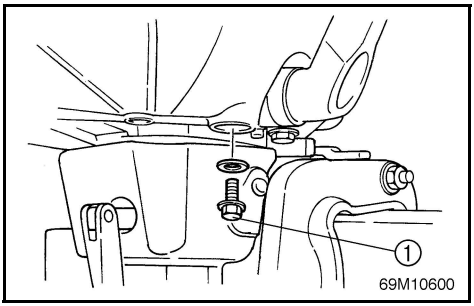


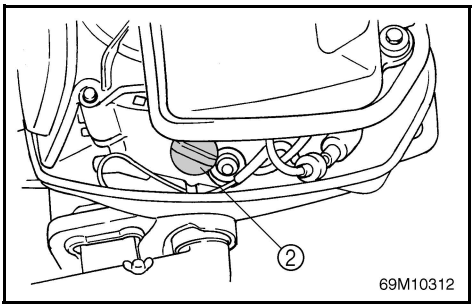
69M10600

NOTE:
Change the engine oil when the oil is still warm.

1) Put the outboard motor in an upright position (not tilted).
2) Prepare a suitable container which can hold a larger amount than the engine oil capacity. Loosen and remove the drain bolt ① holding the container under the drain hole. Let the oil drain completely. Wipe up any spilled oil immediately.
3) Put a new gasket on the drain bolt. Apply a light coat of oil to the gasket and reinstall the drain bolt.

Tightening torque:
Refer to “SPECIFICATIONS”, page 4-1.

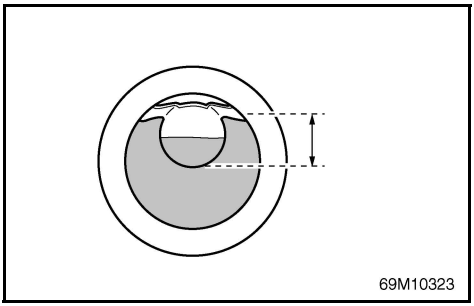
NOTE:
If a torque wrench is not available when you are installing the drain plug, finger tighten the bolt just until the gasket comes into contact with the surface of the drain hole. Then tighten 1/4 - 1/2 turn. Have the drain plug torqued to the correct value with a torque wrench as soon as possible.



4) Remove the oil filler cap ②. Add the correct amount of oil through the filler hole. Reinstall the filler cap.

Engine oil grade/capacity:
Refer to “SPECIFICATIONS”, page 4-1.

5) Start the engine and make sure that there are no oil leaks.
6) Turn off the engine and wait 3 minutes. Recheck the oil level in the oil level window to be sure the level falls between the upper and lower marks. Fill with oil if it is below the lower mark, or drain to the specified level if it is above the upper mark.



NOTE:
- For disposal of used oil consult your Yamaha dealer.
- The oil should be changed more often when the engine is operated under adverse conditions such as extended trolling.

EMU00383
CHECKING WIRING AND CONNECTORS

1) Check that each grounding wire is properly secured.
2) Check that each connector is engaged securely.

EMU00384
EXHAUST LEAKAGE

Start the engine and check that no exhaust leaks from the joints between the exhaust cover, cylinder head and crank case.

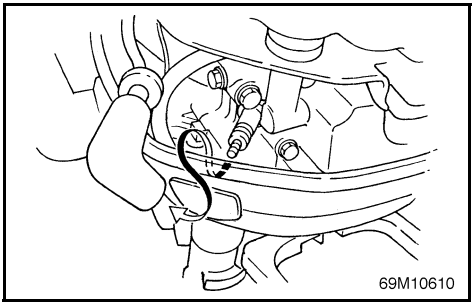
EMU00385
WATER LEAKAGE

Start the engine and check that no water leaks from the joints between the exhaust cover, cylinder head and crank case.

EMU01634
ENGINE OIL LEAKAGE

Check that no oil leaks from the engine oil system.

NOTE:
If any leaks are found, consult a Yamaha dealer.



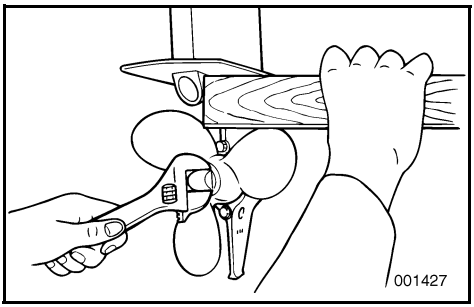
EMU01743

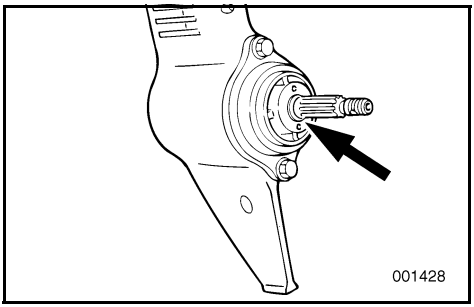
CHECKING PROPELLER

⚠WARNING

You could be seriously injured if the engine accidentally starts while you are near the propeller.

- **Before inspecting, removing or installing the propeller, remove the spark plug cap from the spark plug. Also, put the shift control in Neutral and remove the lanyard from the engine stop switch.**
- **Do not use your hand to hold the propeller when loosening or tightening the propeller nut. Put a wood block between the cavitation plate and the propeller to prevent the propeller from turning.**

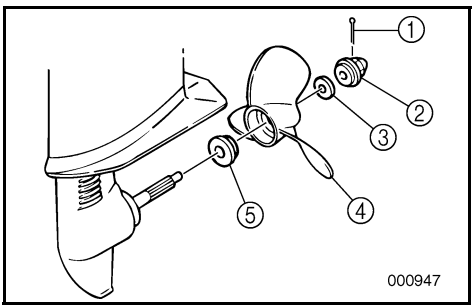




EMU00390

Propeller Checking Point

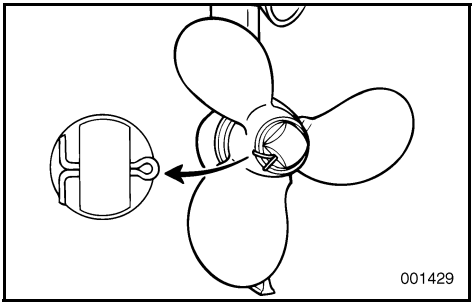
- Check each of the propeller blades for wear, erosion from cavitation or ventilation, or other damage.
- Check the splines for wear and damage.
- Check for fish line winding around the propeller shaft.
- Check the propeller shaft oil seal for damage.



EMU00977

Removing the Propeller

1) Straighten the cotter-pin ① and pull it out using a pair of pliers.
2) Remove the propeller nut ② and washer ③.
3) Remove the propeller ④ and thrust washer ⑤.



EMU00926

Installing the Propeller

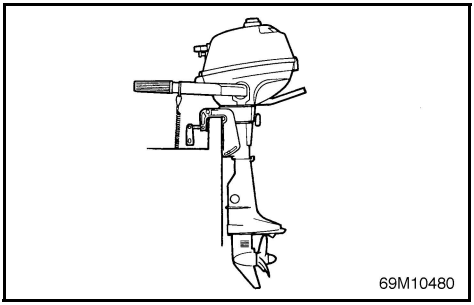
CAUTION:

- **Be sure to install the thrust washer before installing propeller, otherwise, lower case and propeller boss may be damaged.**
- **Be sure to use a new cotter pin and bend the ends over securely. Otherwise, the propeller could come off during operation and be lost.**

1) Apply Yamaha Marine grease or a corrosion resistant grease to the propeller shaft.
2) Install the thrust washer and propeller on the propeller shaft.
3) Install the washer and tighten the propeller nut.
4) Align the propeller nut with the propeller shaft hole. Insert a new cotter pin in the hole and bend the cotter pin ends.

NOTE:

When the propeller nut does not align with the propeller shaft hole after tightening it, then loosen the nut to align it with the hole.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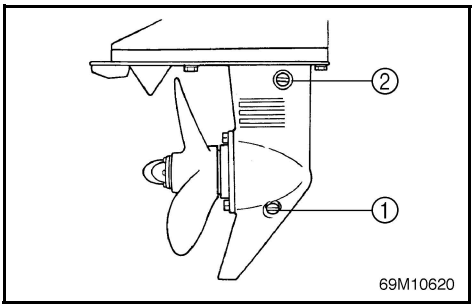

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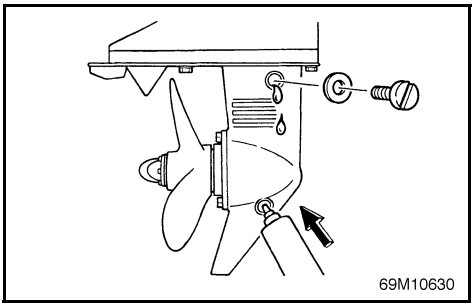
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EMU01460

CHANGING GEAR OIL

⚠WARNING

- **Be sure the outboard is securely fastened to the transom or a stable stand. You could be severely injured if the outboard falls on you.**
- **Never get under the lower unit while it is tilted, even when the tilt-support lever/knob is locked. Severe injury could occur if the outboard accidentally falls.**

1) Tilt the outboard motor so that the oil drain plug is at the lowest point possible.
2) Place a suitable container under the gear-case.
3) Remove the oil drain plug ①.
4) Remove the oil level plug ② to allow the oil to drain completely.

CAUTION:

Inspect the used oil after it has been drained. If the oil is milky, water is getting into the gear-case which can cause gear damage. Consult a Yamaha dealer for repair of the lower unit seals.

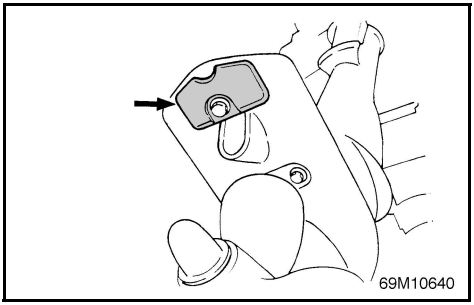
NOTE:

For disposal of used oil consult your Yamaha dealer.

5) With the outboard motor in a vertical position, and using a flexible or pressurized filling device, inject the gear oil into the oil drain plug hole.

Gear oil grade/capacity:
Refer to “SPECIFICATIONS,” page 4-1.

6) When the oil begins to flow out of the oil level plug hole, insert and tighten the oil level plug.
7) Insert and tighten the oil drain plug.



EMU14622

INSPECTING AND REPLACING ANODE(S)

Yamaha outboard motors are protected from corrosion by sacrificial anodes. Inspect the external anodes periodically. Remove scales from the surfaces of the anodes. Consult a Yamaha dealer for replacement of external anodes.

CAUTION:

Do not paint anodes, as this would render them ineffective.

NOTE:

Inspect ground leads attached to external anodes on equipped models. Consult a Yamaha dealer for inspection and replacement of internal anodes attached to the power unit.

EMU00408

CHECKING BOLTS AND NUTS

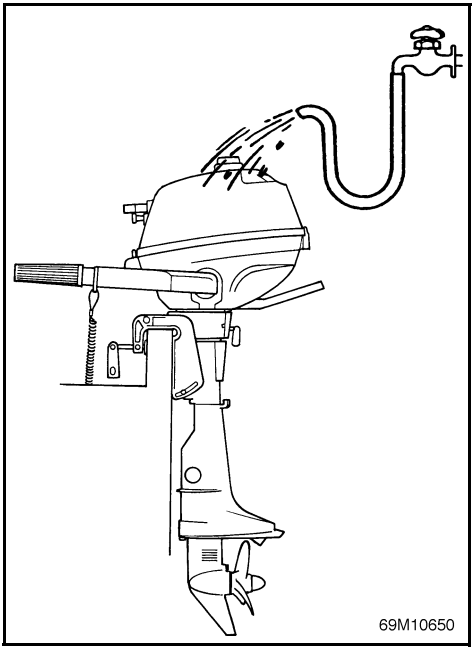
1) Check that bolts securing the cylinder head and engine and the nut securing the flywheel are tightened with their specified tightening torque.
2) Check the tightening torque of other bolts and nuts.

EMU01635

CHECKING TOP COWLING

Check the fitting of the top cowling by pushing it with both hands.

If the fitting is loose have it repaired by a Yamaha dealer.



EMU00409

MOTOR EXTERIOR

EMU00410

Cleaning the OUTBOARD Motor

After use, wash the exterior of the outboard with fresh water.

Flush the cooling system with fresh water.

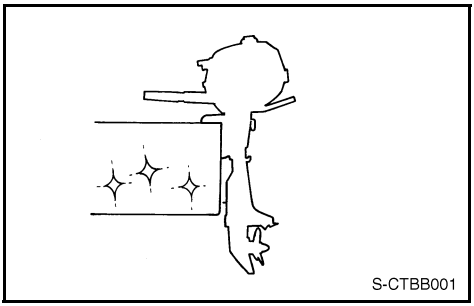
NOTE:

Refer to Flushing Cooling System instructions in “TRANSPORTING AND STORING OUTBOARD MOTOR”.

EMU00412

Checking Painted Surface of Motor

Check the motor for scratches, nicks, or flaking paint. Areas with damaged paint are more likely to corrode. If necessary, clean and paint the areas. A touch-up paint is available from a Yamaha dealer.



EMU00413

COATING THE BOAT BOTTOM

A clean hull improves boat performance. The boat bottom should be kept as clean of marine growths as possible. If necessary, the boat bottom can be coated with an anti-fouling paint approved for your area to inhibit marine growth.

Do not use anti-fouling paint which includes copper or graphite. These paints can cause more rapid engine corrosion.

E

EMU00414

Chapter 5
TROUBLE RECOVERY

TROUBLESHOOTING 5-1

TEMPORARY ACTION IN EMERGENCY 5-4
- Impact damage 5-4
- Starter will not operate 5-5
- Treatment of submerged motor 5-8

5

EMU01752¨

TROUBLESHOOTING

A problem in the fuel, compression, or ignition systems can cause poor starting, loss of power, or other problems. The troubleshooting chart describes basic checks and possible remedies. (This chart covers all Yamaha outboard motors. Therefore, some items may not apply to your model.)

If your outboard motor requires repair, bring it to a Yamaha dealer.

Trouble	Possible Cause	Remedy
A. Starter will not operate.	1. Starter components faulty.	1. Have serviced by a Yamaha dealer.
B. Engine will not start (Starter operates).	1. Fuel tank empty.	1. Fill tank with clean, fresh fuel.
	2. Fuel contaminated or stale.	2. Fill tank with clean, fresh fuel.
	3. Fuel filter clogged.	3. Clean or replace filter.
	4. Starting procedure incorrect.	4. Read “STARTING ENGINE” section.
	5. Spark plug(s) fouled or incorrect type.	5. Inspect spark plug(s). Clean or replace with recommended type.
	6. Spark plug cap(s) fitted incorrectly.	6. Check and re-fit cap(s).
	7. Poor connections or damaged ignition wiring.	7. Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires.
	8. Ignition parts faulty.	8. Have serviced by a Yamaha dealer.
	9. Engine stop switch lanyard not attached.	9. Attach lanyard.
	10. Engine inner parts damaged.	10. Have serviced by a Yamaha dealer.
	11. Fuel cock is closed.	11. Open the fuel cock.

Trouble	Possible Cause	Remedy
C. Engine idles irregularly or stalls.	1. Spark plug(s) fouled or incorrect type.	1. Inspect spark plug(s). Clean or replace with recommended type.
	2. Fuel system obstructed.	2. Check for pinched or kinked fuel line or other obstructions in fuel system.
	3. Fuel contaminated or stale.	3. Fill tank with clean, fresh fuel.
	4. Fuel filter clogged.	4. Clean or replace filter.
	5. Failed ignition parts.	5. Have serviced by a Yamaha dealer.
	6. Spark plug gap incorrect.	6. Inspect and adjust as specified.
	7. Poor connections or damaged ignition wiring.	7. Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires.
	8. Specified engine oil not used.	8. Check and replace oil as specified.
	9. Thermostat faulty or clogged.	9. Have serviced by a Yamaha dealer.
	10. Carburetor adjustments incorrect.	10. Have serviced by a Yamaha dealer.
	11. Air vent screw on the fuel tank closed.	11. Open the air vent screw.
	12. Choke knob pulled out.	12. Return to home position.
	13. Motor angle too high.	13. Return to normal operating position.
	14. Carburetor clogged.	14. Have serviced by a Yamaha dealer.
	15. Throttle valve adjustment incorrect.	15. Have serviced by a Yamaha dealer.
	16. Fuel cock is closed.	16. Open the fuel cock.

Trouble	Possible Cause	Remedy
D. Engine power loss.	1. Propeller damaged.	1. Have propeller repaired or replaced.
	2. Propeller pitch or diameter incorrect.	2. Install correct propeller to operate outboard at its recommended speed (r/min) range.
	3. Trim angle incorrect.	3. Adjust trim angle to achieve most efficient operation.
	4. Motor mounted at incorrect height on transom.	4. Have motor adjusted to proper transom height.
	5. Boat bottom fouled with marine growth.	5. Clean boat bottom.
	6. Spark plug(s) fouled or incorrect type.	6. Inspect spark plug(s). Clean or replace with recommended type.
	7. Weeds or other foreign matter tangled on gear housing.	7. Remove foreign matter and clean lower unit.
	8. Fuel system obstructed.	8. Check for pinched or kinked fuel line or other obstructions in fuel system.
	9. Fuel filter clogged.	9. Clean or replace filter.
	10. Fuel contaminated or stale.	10. Fill tank with clean, fresh fuel.
	11. Spark plug gap incorrect.	11. Inspect and adjust as specified.
	12. Poor connections or damaged ignition wiring.	12. Check wires for wear or breaks. Tighten all loose connections. Replace worn or broken wires.
	13. Failed ignition parts.	13. Have serviced by a Yamaha dealer.
	14. Specified engine oil not used.	14. Check and replace oil with specified type.
	15. Thermostat faulty or clogged.	15. Have serviced by a Yamaha dealer.
	16. Air vent screw closed.	16. Open the air vent screw.
	17. Heat range of spark plug incorrect.	17. Inspect spark plug and replace it with recommended type.
E. Engine vibrates excessively.	1. Propeller damaged.	1. Have propeller repaired or replaced.
	2. Propeller shaft damaged.	2. Have serviced by a Yamaha dealer.
	3. Weeds or other foreign matter tangled on propeller.	3. Remove and clean propeller.
	4. Clamp screw is loose.	4. Tighten the clamp screw.
	5. Steering pivot loose or damaged.	5. Tighten or have serviced by a Yamaha dealer.

EMU00416

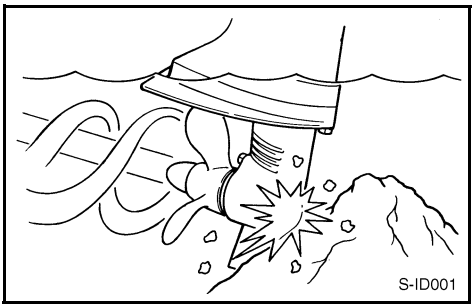
TEMPORARY ACTION IN EMERGENCY

EMU01492

IMPACT DAMAGE

⚠WARNING

The outboard motor can be seriously damaged by a collision while operating or trailering. Damage could make the outboard motor unsafe to operate.



If the outboard motor hits any object in the water, follow the procedure below.

1) Stop the engine immediately.
2) Inspect the control system and all components for damage. Also, inspect the boat for damage.
3) Whether damage is found or not, return to the nearest harbor slowly and carefully.
4) Have a Yamaha dealer inspect the outboard motor before operating it again.

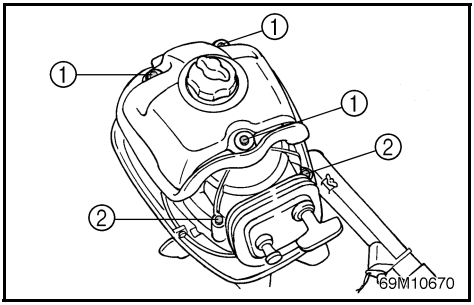
EMU01744

STARTER WILL NOT OPERATE

If the starter mechanism does not operate, the engine can be started with an emergency starter rope.

⚠WARNING

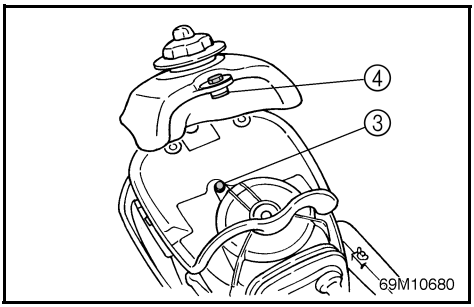
- **Use this procedure only in an emergency and only to return to port for repairs.**
- **When the emergency starter rope is used to start the engine the boat could unexpectedly start to move, which could result in an accident. Make sure the gear shift lever is in neutral.**
- **Be sure no one is standing behind you when pulling the starter rope. It could whip behind you and injure someone.**
- **An unguarded rotating flywheel is very dangerous. Keep loose clothing and other objects away when starting the engine. Use the emergency starter rope only as instructed. Do not touch the flywheel or other moving parts when the engine is running. Do not install the starter mechanism or top cowling after the engine is running.**
- **Do not touch the ignition coil, high voltage wire, spark plug cap or other electrical components when starting of operating the motor. You could be shocked.**



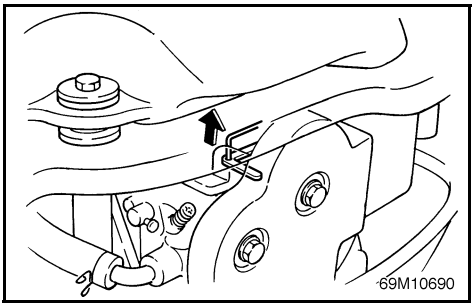
EMU01746

Emergency Starting Engine

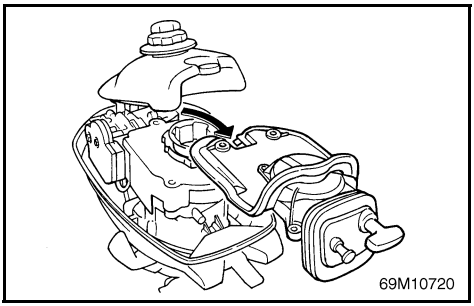
1) Remove the top cowling.
2) Remove the bolts ① from the fuel tank.
3) Remove the bolts ② from the starter case.



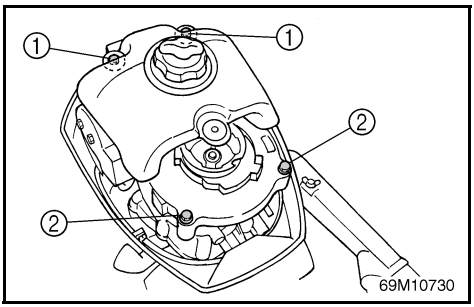
4) While lifting the fuel tank up, remove the bolt ③ from the starter case.
5) Remove the collar ④.



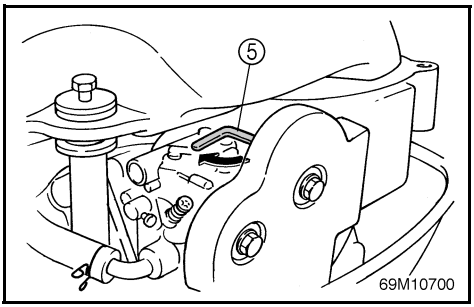
6) While lifting the starter case up, disconnect the choke wire from the carburetor.



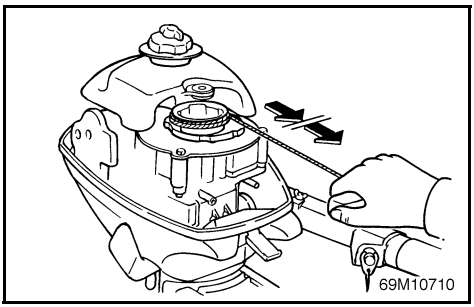
7) Remove the starter case by pulling it towards you.



8) Install the fuel tank bracket by installing the bolts ②.
9) Install 2 bolts ① into the rear section of the fuel tank.
10) Prepare the engine for starting. See "STARTING ENGINE" for procedures. Be sure the engine is in Neutral and that the lanyard lock plate is attached to the engine stop lanyard switch.



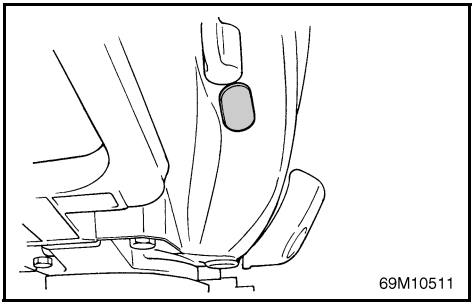
11) Turn the lever ⑤ on the carburetor to operate the choke system when the engine is cold. After the engine starts, return the lever to the original position.

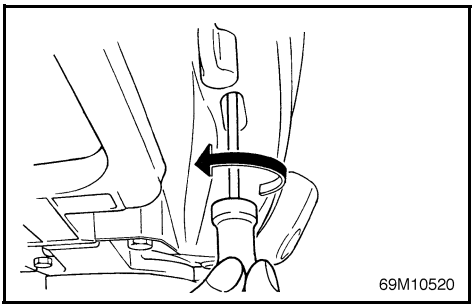


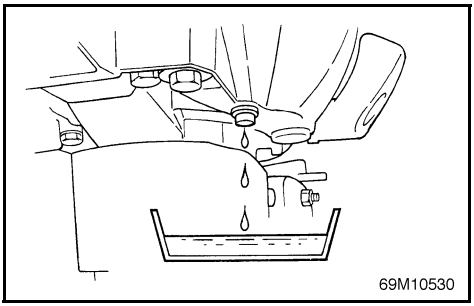
12) While lifting the fuel tank, insert the knotted end of the emergency starter rope into the notch in the flywheel rotor and wind the rope 1 to 2 turns clockwise.

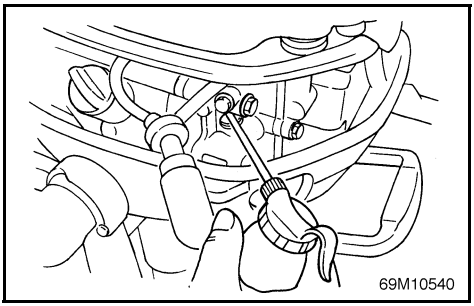
NOTE:
If the rope is too long after winding it around the flywheel, shorten its length at the handle.

13) Pull the rope slowly until resistance is felt.
14) Give a strong pull straight out to crank and start the engine. Repeat if necessary.
15) Install the top cowling.









EMU01511

TREATMENT OF SUBMERGED MOTOR

If the outboard motor is submerged, immediately take it a Yamaha dealer. Otherwise, some corrosion may begin almost immediately.

If you cannot immediately take the outboard motor to a Yamaha dealer, follow the procedure below in order to minimize engine damage.

EMU00448

1) Thoroughly wash away mud, salt, seaweed, etc. with fresh water.
2) Remove the spark plug(s), then face the spark plug holes downward to allow any water, mud or contaminants to drain.
3) Drain the fuel from the carburetor, fuel filter and fuel line. Drain the engine oil completely.
4) Fill the sump with the fresh engine oil as the same quantity as the engine oil capacity.

Engine oil capacity: Refer to SPECIFICATIONS, Page 4-1.

5) Feed engine fogging oil or engine oil through the carburetor(s) and spark plug hole(s) while cranking the engine with the manual starter or emergency starter rope.
6) Take the outboard motor to a Yamaha dealer as soon as possible.

CAUTION:

Do not attempt to run the motor until it has been completely inspected.

-MEMO-

E

AtoZ

EMU00450

Chapter 6
INDEX

INDEX 6-1

6

EMU00451

INDEX

A
Adjusting trim angle 3-16
Adjustment 2-7
Air vent screw 2-2
Approval label of emission control certificate ... 1-2
B
Basic boating rules (rules of the road) 1-8
Breaking in (running in) engine 3-8
C
Carrying handle 2-8
Caution labels 1-7
Changing engine oil 4-14
Changing gear oil 4-19
Checking bolts and nuts 4-20
Checking fuel system 4-12
Checking painted surface of motor 4-21
Checking points after starting engine 3-12
Checking propeller 4-17
Checking the engine oil level 3-6
Checking top cowling 4-20
Checking wiring and connectors 4-16
Checkpoints 4-12
Choke knob 2-4
Clamping the outboard motor 3-4
Cleaning and adjusting spark plug 4-10
Cleaning and anti-corrosion measure 4-6
Cleaning the outboard motor 4-21
Close 2-3
Coating the boat bottom 4-21
Controls 3-6
Crossing 1-9
E
Emergency starting engine 5-6
Emission control information 1-2
Engine 3-6
Engine oil 1-14
Engine oil leakage 4-16
Engine stop button 2-6
Engine stop lanyard switch 2-6
Exhaust leakage 4-16
F
Filling fuel 3-7
Filling fuel tank 4-4
Fishing vessel right-of-way 1-10
Flushing cooling system and fogging engine ... 4-5
Forward 3-13
FUEL 2-2
Fuel 3-5
Fuel cock 2-3
Fueling instructions 1-12
Fuel tank cap 2-2
G
Gasohol 1-13
Gasoline 1-13
Gear shift lever (for tiller control model) 2-3
Give-way vessel 1-8
Greasing 4-9
I
Identification numbers record 1-1
Impact damage 5-4
Important labels 1-6
Inspecting and replacing anode(s) 4-20
Inspecting idling speed 4-13
Installation 3-1
Installing the propeller 4-18
L
Lubrication 4-6
M
Main components 2-1
Maintenance chart 4-8
Manual start models 3-11
Manual tilt model 3-16
Manufactured date label 1-2
Meeting 1-9
Motor exterior 4-21
Mounting height 3-3
Mounting the outboard motor 3-2
N
Narrow channels and bends 1-10
North american models 1-2
O
Oil 3-5
One star - low emission 1-3
Open 2-3
Operations of controls and other functions 2-2
Other special situations 1-10
Outboard motor serial number 1-1
Overtaking 1-9

P
Periodic maintenance 4-7
Pre-operation checks 3-5
Procedure for tiller control model 3-10
Procedure for tilting down 3-19
Procedure for tilting up 3-19
Propeller checking point 4-17
Propeller selection 1-15
R
Reading buoys and other markers 1-10
Recoil starter handle (if equipped) 2-4
Removing the propeller 4-17
Replacement parts 4-7
Reverse 3-13
Ring free fuel additive 3-7
Rules when encountering vessels 1-9
S
Safety information 1-4
Sailing vessel right-of-way 1-10
Shifting 3-13
Specifications 4-1
Stand-on vessel 1-8
Star labels 1-3
Starter will not operate 5-5
Starting engine 3-9
Steering and sailing rules and sound signals 1-8
Steering friction adjusting screw (for tiller control model) 2-7
Stopping engine 3-14
Storing outboard motor 4-3
T
Temporary action in emergency 5-4
“The general prudential rule” 1-8
Three stars - ultra low emission 1-3
Throttle control grip 2-5
Throttle friction adjusting screw/ knob 2-5
Throttle Indicator 2-5
Tiller handle (for tiller control model) 2-4
Tilting up/down 3-18
Tilt support lever 2-7
Top cowling lock lever 2-8
Trailering outboard motor 4-2
Transporting and storing outboard motor 4-2
Transporting outboard when unmounted 4-3
Treatment of submerged motor 5-8
Trim angle adjusting rod 2-7
Trim angle settings and boat handling 3-17
Trimming outboard motor 3-15
Troubleshooting 5-1
Two stars - very low emission 1-3
W
Warming up engine 3-12
Warning labels 1-6
Water leakage 4-16

EMU01599

IMPORTANT WARRANTY INFORMATION FOR U.S.A. AND CANADA

Welcome to the Yamaha Family!

Congratulations on the purchase of your new Yamaha marine power. Yamaha is committed to exceptional customer satisfaction, and we want your ownership experience to be a satisfying one. Please read the following warranty information to help ensure satisfaction with your Yamaha.

Yamaha is ready to stand behind your purchase with strong warranty coverage. To be sure you receive all the benefits of warranty, please take the following steps:

1. Be sure your new Yamaha is registered for warranty. Your boat dealer should do this at the time of sale. Make sure your dealer gives you a copy of the completed Yamaha registration card for your records. If you are unsure whether or not your Yamaha is registered, complete the Warranty Registration card found inside the cover of the Owner's Manual. Mail it to the distributor for the country in which you live (see step 6 for the correct address). If your Yamaha is not properly registered, a warranty repair could be unnecessarily delayed while registration records are checked.

2. Read the Limited Warranty statement which follows these instructions. This warranty applies to Yamaha outboard motors sold in the United States, whether purchased separately or when supplied as original equipment by a boat builder. The terms also apply to original equipment packages sold in Canada, with coverage provided by Yamaha Motor Canada (see "Warranty Guide'' for Canadian models). This warranty explains the conditions of the warranty, including the obligations that your dealer and you as the owner have under the warranty. For example, your Yamaha outboard must receive a proper pre-delivery inspection (PDI) by the selling dealer. Failure to take this important step could jeopardize warranty coverage!

3. If you need warranty repairs, you must take your Yamaha outboard to an authorized Yamaha outboard dealer. Be aware that not all selling boat dealers are authorized Yamaha dealers. Only authorized dealers have the factory training, special tools, and Yamaha support needed to perform warranty repairs.

4. If you are away from home, or your selling dealer is not an authorized Yamaha dealer, use the following toll-free numbers to find the nearest Yamaha dealer.

   United States Dealer Locations: 1-800-692-6242
   Canada Dealer Locations: 1-800-267-8577

5. Your warranty applies specifically to repairs made in the country of purchase. If your U.S.-purchased Yamaha needs warranty service while in Canada, or your Canadian purchased Yamaha needs service while in the United States, Yamaha will assist the local dealer whenever possible. However, some products available in one country may not be sold or serviced in the other.

6. If you need any additional information about your Yamaha or warranty coverage which your dealer cannot provide, please contact us directly.

Yamaha Motor Corporation, U.S.A.
P.O. Box 6555
Cypress, CA 90630
Attention: Customer Relations Department

Telephone No. (714) 761-7439
Fax No. (714) 761-7559

Yamaha Motor Canada Ltd.
480 Gordon Baker Road
Toronto, Ontario
M2H 3B4
Attention: Customer Relations Department

Telephone No. (416) 498-1911
Fax No. (416) 491-3122

EMU01404

YAMAHA MOTOR CORPORATION, U.S.A. FOUR-STROKE OUTBOARD MOTOR THREE-YEAR LIMITED WARRANTY

Yamaha Motor Corporation, U.S.A. hereby warrants that new Yamaha 1999-or-later model four-stroke outboard motors originally distributed by Yamaha Motor Corporation, U.S.A. will be free from defects in material and workmanship for the period of time stated herein, subject to certain stated limitations. Warranty coverage for outboards distributed by non-US Yamaha affiliated companies may be different.

PERIOD OF WARRANTY. Any new Yamaha 1999-or-later model four-stroke outboard motor purchased and registered with Yamaha Motor Corporation, U.S.A. for pleasure use in the United States, will be warranted against defects in material or workmanship for a period of three (3) years from the date of purchase, subject to exclusions noted herein. Any Yamaha outboard motor purchased and utilized for commercial applications will be warranted for a period of one (1) year from the date of purchase, subject to exclusions noted herein. Yamaha peripheral equipment included with the motor, such as gauges, fuel tanks, and hoses, remote control boxes, and wiring external from the motor unit, will be warranted for one (1) year from the date of purchase of either pleasure or commercial use. Replacement parts used in warranty repairs will be warranted for the balance of the applicable warranty period.

The second and third year of warranty (if applicable) shall be limited to covering the cost of parts and labor for major components only. The major components covered are:

Power Unit Section
- Power Head
- Intake Manifold
- Carburetor Assembly and its Related Components
- Fuel Injection System and its Related Components
- Fuel and Oil Pump Assemblies
- Ignition System (Standard and Microcomputer)

Lower Unit Section
- Exhaust System
- Upper Casing
- Lower Unit Assembly

Bracket Section
- Bracket System
- Power Trim and Tilt Assembly

WARRANTY REGISTRATION. To be eligible for warranty coverage, the outboard motor must be registered with Yamaha Motor Corporation, U.S.A. Warranty registration can be accomplished by any authorized Yamaha Outboard Motor Dealer. Upon receipt of the registration, an Owner's Warranty Card will be sent by Yamaha to the registered purchaser.

OBTAINING REPAIRS UNDER WARRANTY. To receive repairs under this warranty, a valid Owner's Warranty Card must be presented to an authorized Yamaha Outboard Motor Dealer.

During the period of warranty, any authorized Yamaha outboard dealer will, free of charge, repair or replace, at Yamaha's option, any parts adjudged defective by Yamaha due to faulty workmanship or material from the factory. All replaced parts will become the property of Yamaha Motor Corporation, U.S.A.

CUSTOMER'S RESPONSIBILITY. Under the terms of this warranty, the customer will be responsible for ensuring that the outboard motor is properly operated, maintained, and stored as specified in the applicable Owner's Manual.

The owner of the outboard motor shall give notice to an authorized Yamaha Outboard Motor Dealer of any and all apparent defects within ten (10) days of discovery and make the motor available at that time for inspection and repairs at the dealer's place of business.

GENERAL EXCLUSIONS FROM WARRANTY. This warranty will not cover the repair of damage if the damage is a result of abuse or neglect of the product. Examples of abuse and neglect include, but are not limited to:

1. Racing or competition use, modification of original parts, abnormal strain.
2. Lack of proper maintenance and off season storage as described in the Owner's Manual, installation of parts or accessories that are not equivalent in design and quality genuine Yamaha parts.
3. Operation of the motor at an rpm other than specified, use of lubricants or oils that are not suitable for outboard motor use.
4. Damage as a result of accidents, collisions, contact with foreign materials, or submersion.
5. Growth of marine organism on motor surfaces.
6. Normal deterioration.

SPECIFIC PARTS EXCLUDED FROM WARRANTY. Parts replaced due to normal wear or routine maintenance such as oil, spark plugs, shear pins, propellers, hubs, fuel and oil filters, brushes for the starter motor and power tilt motor, water pump impellers, and anodes, are not covered by warranty.

Charges for removal of the motor from a boat and transporting the motor to and from an authorized Yamaha Outboard Motor Dealer are excluded from warranty coverage.
Specific parts excluded from the second and third year of warranty (if applicable) are:

- Top and Bottom Cowling
- Electric Components (other than ignition system)
- Rubber Components (such as hoses, tubes, rubber seals, fittings, and clamps)

TRANSFER OF WARRANTY. Transfer of the warranty from the original purchaser to any subsequent purchaser is possible by having the motor inspected by an authorized Yamaha Outboard Motor Dealer and requesting the dealer to submit a change of registration to Yamaha Motor Corporation, U.S.A. within ten (10) days of the transfer.

YAMAHA MOTOR CORPORATION, U.S.A. MAKES NO OTHER WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED. ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE WHICH EXCEED THE OBLIGATIONS AND TIME LIMITS STATED IN THIS WARRANTY ARE HEREBY DISCLAIMED BY YAMAHA MOTOR CORPORATION, U.S.A. AND EXCLUDED FROM THIS WARRANTY.

SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS MAY NOT APPLY TO YOU. ALSO EXCLUDED FROM THIS WARRANTY ARE ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES INCLUDING LOSS OF USE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE EXCLUSION MAY NOT APPLY TO YOU.

THIS WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM STATE TO STATE.

YAMAHA MOTOR CORPORATION, U.S.A.
Post Office Box 6555
Cypress, California 90630

EMU01178

IMPORTANT WARRANTY INFORMATION IF YOU USE YOUR YAMAHA OUTSIDE U.S.A. OR CANADA

Welcome to the Yamaha Family!

Congratulations on the purchase of your new Yamaha marine power. Yamaha is committed to exceptional customer satisfaction, and we want your ownership experience to be a satisfying one. Please read the following warranty information to help ensure satisfaction with your Yamaha.

This model was manufactured as a U.S.A. specification model, and the warranty statement shown in this manual is for market. To receive the benefits of the warranty that applies to the country in which you use your Yamaha, please note the following information.

1. The warranty on this model is the same as equivalent models sold in the country where you will receive service. If you need more information about your warranty coverage or your Yamaha outside the U.S.A. or Canada, please contact an authorized Yamaha dealer in your country.

2. Keep a copy of your sales contract or invoice for the purchase of your Yamaha and present it if you need warranty repairs. This document should show the date of purchase, which is important evidence the repairing dealer will need to be sure your Yamaha is covered by warranty.

3. If your Yamaha needs warranty repairs, contact an authorized Yamaha dealer in the country where you are. He will explain how to get warranty service in that country.

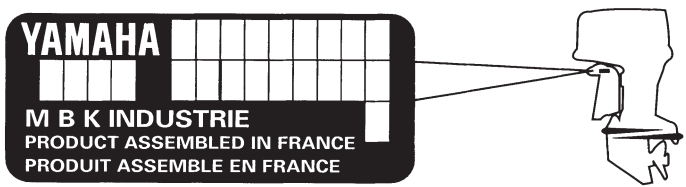
4. This Yamaha model may not be sold in some countries. Therefore, in some cases your local dealer may not have all the parts or service information he may need, which may unavoidably delay repairs. If this happens, we thank you for your understanding and assure you we will attempt to resolve the situation as quickly as possible.

YAMAHA MOTOR CORPORATION, USA
Printed in France
January 2003–0.3 × 1 CR
69M-F8199-11
(F2.5AMH)
(E)

YAMAHA OUTBOARD MOTOR WARRANTY REGISTRATION
ENREGISTREMENT DE LA GARANTIE DU MOTEUR HORS-BORD

Please complete and mail this card. This information is necessary to accurately register your unit for warranty.
Veuillez signer ci-dessous pour attester que le montage et l'inspection ont été faits dans le respect des directives d'inspection et que la marche à suivre pour la garantie et l'entretien a été expliquée à l'acheteur au détail.

OUTBOARD MOTOR MODEL AND SERIAL NUMBER (From I.D. label on clamp bracket)
MODÈLE ET NO. DE SÉRIE DU MOTEUR HORS-BORD (sur l'étiquette d'identification de la presse de fixation)



(For Dealer Use Only)
(A l'usage du concessionnaire)
YAMAHA DEALER NUMBER
NO. DU CONCESSIONNAIRE YAMAHA

DEALER NAME
NOM DU CONCESSIONNAIRE

DATE SOLD
DATE DE LIVRAISON
MONTH / MOIS — DAY / JOUR — YEAR / ANNÉE

USAGE (Check One) / UTILISATION (En cocher un.)
☐ PLEASURE / LOISIR
☐ COMMERCIAL / COMMERCIAL

OWNER'S NAME
NOM DU PROPRIÉTAIRE
FIRST / PRÉNOM — LAST / NOM DE FAMILLE

ADDRESS
ADRESSE
STREET / RUE

CITY / VILLE — STATE/PROVINCE / PROVINCE — ZIP / CODE POSTAL

PHONE NUMBER ( )
NUMÉRO DE TÉLÉPHONE

PLACE
POSTAGE
HERE

ATTN: WARRANTY DEPARTMENT